CONFIDENTIAL

Form OGC-1a

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

(Other instructions on reverse side)

CONFIDENTIAL

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. Lease Designation and Serial No.: U-20544

6. If Indian, Allottee or Tribe Name: N/A

1a. Type of Work: DRILL [XX] DEEPEN [ ] PLUG BACK [ ]

7. Unit Agreement Name: √Bradford Canyon

b. Type of Well: Oil Well [XX] Gas Well [ ] Other — Single Zone [XX] Multiple Zone [ ]

8. Farm or Lease Name: Deadman Canyon Fed.

2. Name of Operator: Quintana Petroleum Corp. 303/628-9211
1050-17th St., Suite 400
Denver, CO 80265

9. Well No.: #1-21

3. Address of Operator: PERMITCO INC. - Agent 303/322-7878
P.O. Box 44065
Denver, CO 80201-4065

10. Field and Pool, or Wildcat: ~~Wildcat~~ Undesignated

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: 460' FSL and 460' FWL

11. Sec., T., R., M., or Blk. and Survey or Area

At proposed prod. zone: SW SW Sec. 21

Sec. 21, T37S - R24E

14. Distance in miles and direction from nearest town or post office*: 22 miles southeast of Blanding, Utah

12. County or Parrish: San Juan 13. State: Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)	16. No. of acres in lease	17. No. of acres assigned to this well
460'	640	40

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.	19. Proposed depth	20. Rotary or cable tools
none	6125'	Rotary

21. Elevations (Show whether DF, RT, GR, etc.): 5584' GR

22. Approx. date work will start*: March 15, 1987

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4	9-5/8"	36#	2000'	760 sx or suffic. to circ to surf
8-3/4"	5-1/2"	15.5 & 17#	6125'	320 sx or suffic. to cover zones of interest.

Quintana Petroleum Corp. proposes to drill a well to 6125' to test the Ismay and Desert Creek formations. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and State of Utah requirements.

See Onshore Order No. 1 attached.

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 2-25-87
BY: John R. Baza
WELL SPACING: 302

RECEIVED
FEB 13 1987
DIVISION OF OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed: Lesa G. Green Title: Authorized Agent for Quintana Petroleum Corp. Date: 2/11/87

(This space for Federal or State office use)

Permit No. ..... Approval Date .....

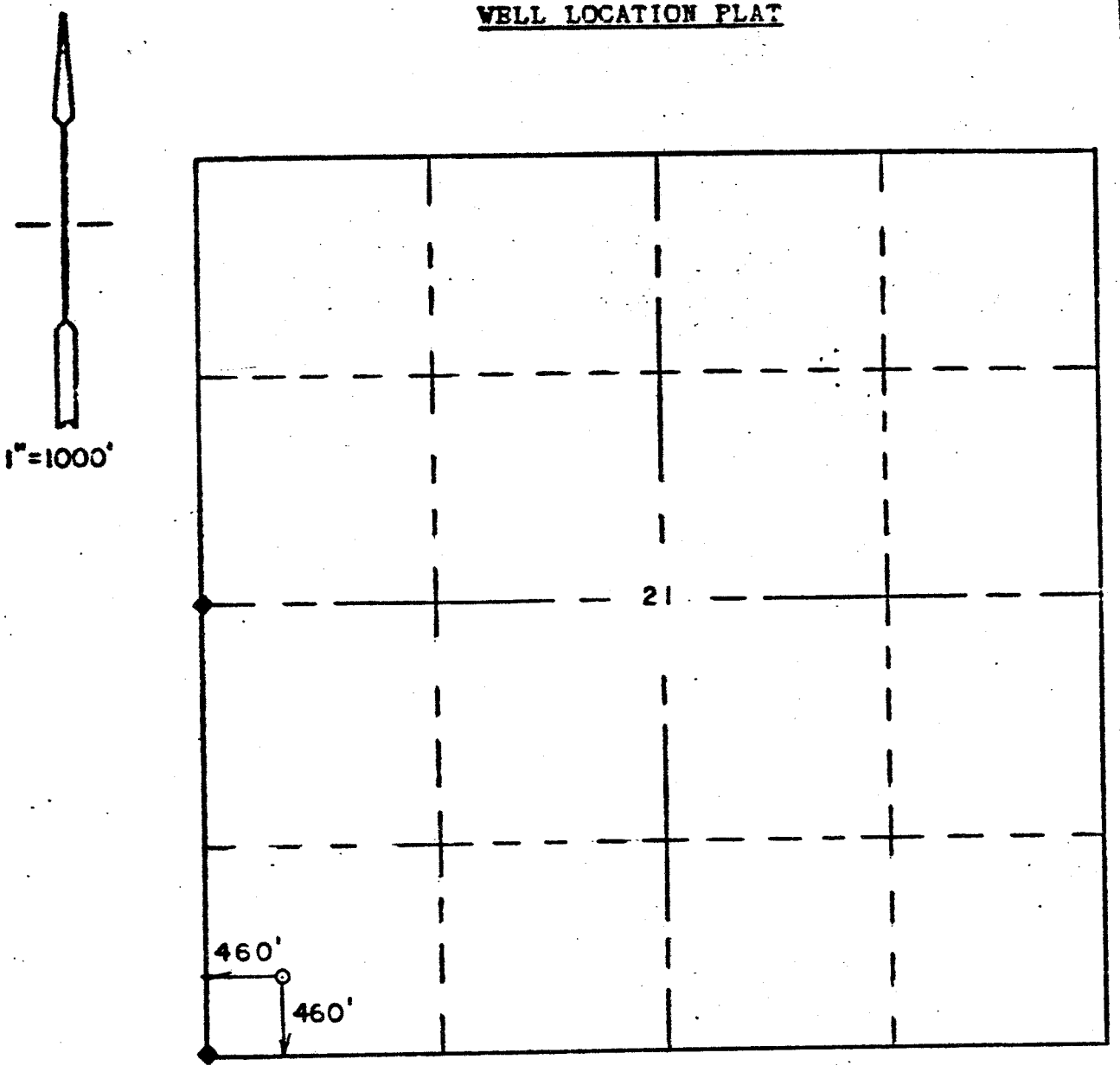
Approved by ..... Title ..... Date .....

Conditions of approval, if any:

*See Instructions On Reverse Side

PLAT #1

WELL LOCATION PLAT



WELL LOCATION DESCRIPTION:

Quintana Petroleum
Deadman Canyon # 1-21
460'FSL & 460'FWL
Section 21, T.37 S., R.24 E., SLM
San Juan County, Utah
5584' grd. elevation
References: 200' West 5581'
200' South 5596'

The above plat is true and correct to my knowledge and belief.

02-07-'87

Gerald G. Huddleston, LS

REGISTERED LAND SURVEYOR
GERALD G
HUDDLESTON
STATE OF UTAH

QUINTANA PETROLEUM CORPORATION
1050 SEVENTEENTH STREET
SUITE 400
DENVER, COLORADO 80265
(303) 628-9211

February 10, 1987

Bureau of Land Management
P. O. Box 7
Monticello, UT 84535

Re: Deadman Canyon Federal #4-20
Deadman Canyon Federal #1-21
Deadman Canyon Federal #1-19
San Juan County, Utah

Gentlemen:

This letter is to inform you that Permitco is authorized to act as Agent and to sign documents on behalf of Quintana Petroleum Corporation when necessary for filing county, state and federal permits including Onshore Order No. 1 Right-of Way applications, etc. for the referenced wells.

It should be understood that Permitco is acting as Agent only in those matters stated above and is not responsible for drilling, completion, production or compliance with regulations.

Quintana Petroleum Corporation agrees to accept full responsibility for operations conducted in order to drill complete and produce the above-mentioned wells.

Very truly yours

John W. Wessels

John W. Wessels
District Operations Manager

cc: Permitco Lisa Green

JWW.jp

ONSHORE OIL & GAS ORDER NO. 1

Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

QUINTANA PETROLEUM CORP.
Deadman Canyon Federal #1-21
460' FSL and 460' FWL
Section 21, T37S - R24E
San Juan County, Utah

Prepared For:

QUINTANA PETROLEUM CORP.

By:

PERMITCO INC.
P.O. Box 44065
Denver, Colorado 80201-4065
303/322-7878

Copies Sent To:

4 - BLM - Moab, Utah
1 - BLM - Monticello, Utah
1 - Div. of Oil, Gas & Mining - SLC, Utah
4 - Quintana Petroleum Corp. - Denver, CO

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Permitco Incorporated
A Petroleum Permitting Company

ONSHORE ORDER NO.
Quintana Petroleum Corp.
Deadman Canyon Federal 1-21
460' FSL and 460' FWL
Sec. 21, T37S - R24E
San Juan County, Utah

DRILLING PROGRAM

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

1. The surface formation and estimated formation tops to be encountered are as follows:

Formation	Depth	Subsea
Dakota	Surface	
Navajo	1002'	+4593'
Chinle	1866'	+3729'
Shinarump	2566'	+3029'
Hermosa	4742'	+ 853'
Ismay	5755'	- 160'
Hovenweep Shale	5925'	- 330'
Lower Ismay	5951'	- 356'
Gothic Shale	5997'	- 402'
Desert Creek	6021'	- 426'
Akah	6113'	- 518'
T.D.	6125'	- 530'

2. The estimated depths at which oil, gas, water or other mineral bearing zones are expected to be encountered are as follows:

Substance	Formation	Anticipated Depth
Oil/Gas	Ismay	5755'
Oil/Gas	Desert Creek	6021'

All fresh water and prospectively valuable minerals encountered during drilling, will be recorded by depth cased and cemented. All oil and gas shows will be tested to determine commercial potential.

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DRILLING PROGRAM

3. Pressure control equipment will consist of a 10", 3000# BOP. (See BOP Diagram attached.)

BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs. The San Juan Resource Area will be notified 1 day before pressure testing.

4. a. Casing

The proposed casing program is as follows:

Purpose	Depth	Hole Size	O.D.	Wt.	Grade	Type	New or Used
Conductor	0-40'	17-1/2"	16#	--			
Surface	0-2000'	12-1/4"	9-5/8"	36#	K-55	ST&C	New
Produc.	0-5400'	8-3/4"	5-1/2"	15.5#	K-55	LT&C	New
Produc.	5400-TD	8-3/4"	5-1/2"	17.0#	K-55	LT&C	New

b. Cement

The cementing program will be as follows:

Surface	Type and Amount
0-2000'	560 sx Lite, followed by 200 sx Class B w/2% $CaCl_2$ or sufficient to circulate to surface.
Production	**Type and Amount**
	320 sx Class H w/1% Halad-322 or sufficient to cover zones of interest.

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Anticipated cement tops will be reported as to depth, not the expected number of sacks. The San Juan Resource Area will be notified one day prior to running casing strings and cement.

c. Auxiliary Equipment will be as follows:

1. Kelly cock.

2. Float above the bit.

3. A sub with a full opening valve will be on the floor when the kelly is not in use.

4. Monitoring of the system will be done visually.

5. Drilling fluid will be as follows:

Interval	Mud Type	Mud Wt.	Visc.	F/L	PH
0-2000'	Gel/Lime	8.4-8.6	28-35	N/C	-
2000-5000'	Gel/Lime	8.4-8.6	28-35	N/C	-
5000-T.D.	Dispersed	9.0-11.0	35-50	8-10cc	11.5

6. Coring, logging and testing programs are as follows:

a. One 60' core is possible in the Ismay formation (5785-5845').

b. The logging program will consist of the following: A Dual Laterolog and BHC Sonic will be run from surface casing to T.D. A CNL Lithodensity will be run over zones of interest (minimum run).

c. Drill Stem Tests may be run in the Ismay and Desert Creek formations if shows warrant.

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DRILLING PROGRAM

Whether the well is completed as a dry hole or as a producer, "Well Completion or Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. If requested, samples (cuttings, fluids, and/or gases) will be submitted when requested by the District Manager.

7. Abnormal conditions, bottom hole pressures and potential hazards.

a. The maximum bottom hole pressure to be expected is 3400 psi.

b. Quintana Petroleum Corp. plans to spud the Deadman Canyon Federal #1-21 on approximately March 15, 1987 and intends to complete the well within approximately one month after the well has reached T.D.

c. The operator will contact the San Juan Resource Area at 801/587-2141, 48 hours prior to beginning any dirt work on this location.

d. No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resumption of operations.

e. The spud date will be reported orally to the San Juan Area Manager, a minimum of 24 hours before spudding. A Sundry Notice (Form 3160-5) will be sent within 24 hours of spudding, reporting the spud date and time. The Sundry will be sent to the District Manager. If spudding is on a weekend or holiday, the Sundry will be submitted on the following regular work day.

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DRILLING PROGRAM

f. In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329 "Monthly Report of Operations", starting with the month in which operations begin and continue each month until the well is physically plugged and abandoned. This report will be sent to the Moab BLM District Office, P. O. Box 970, Moab, Utah 84532.

g. Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Resource Area in accordance with requirements of NTL-3A.

h. If a replacement rig is planned for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the District Manager. All conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergencies, verbal approval can be given by the District Petroleum Engineer.

i. If the well is successfully completed for production, then the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five business days following the date on which the well is placed on production.

j. No well abandonment operations will begin without the prior approval of the District Manager. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the District Petroleum Engineer. A "Subsequent Report of Abandonment" (Form 3160-5), will be filed with the District Manager, within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration.

k. Final abandonment will not be approved until surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the San Juan Area Manager or his representative, or the appropriate surface Manager.

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DRILLING PROGRAM

l. Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MMCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

m. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The following information will be permanently beaded-on with a welding torch: Fed, Well number, location by 1/4 1/4 section, township and range, lease number.

n. A first production conference will be scheduled within 15 days after receipt of the first production notice. The San Juan Area Manager will schedule the conference.

o. The following may be inspected and/or witnessed:

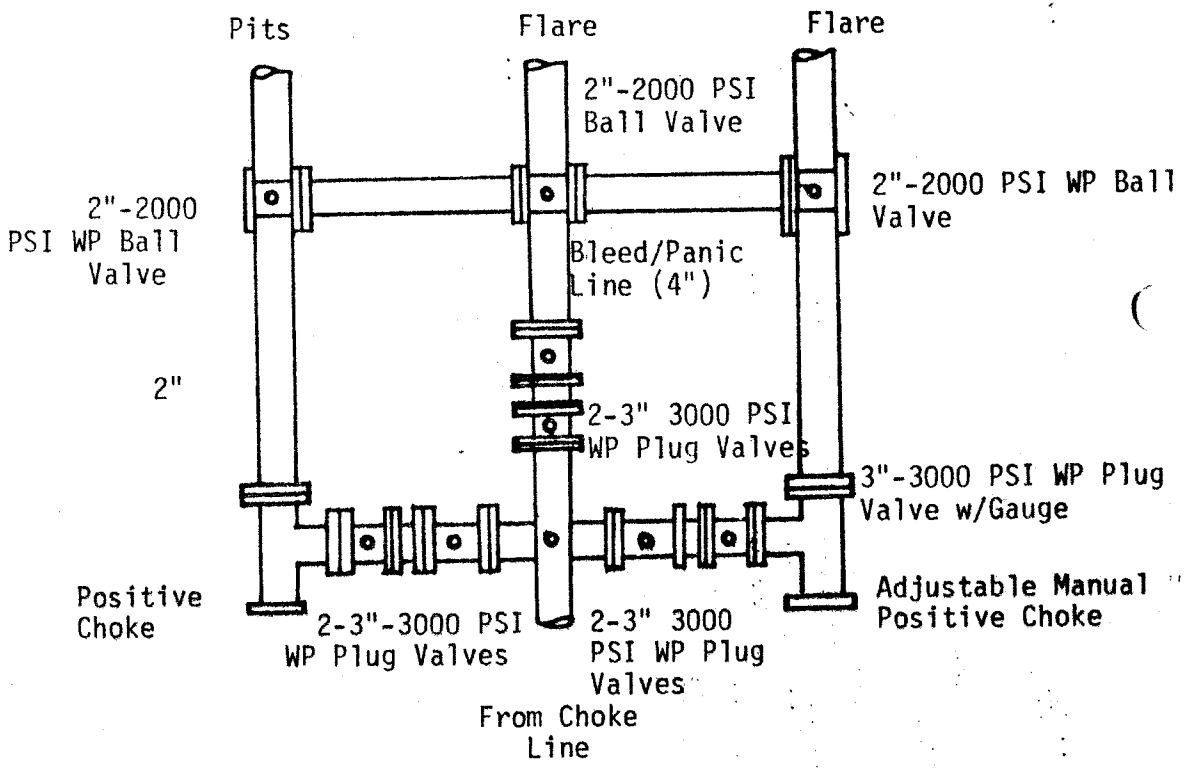
1. The cementing and testing of surface casing, testing BOP's.

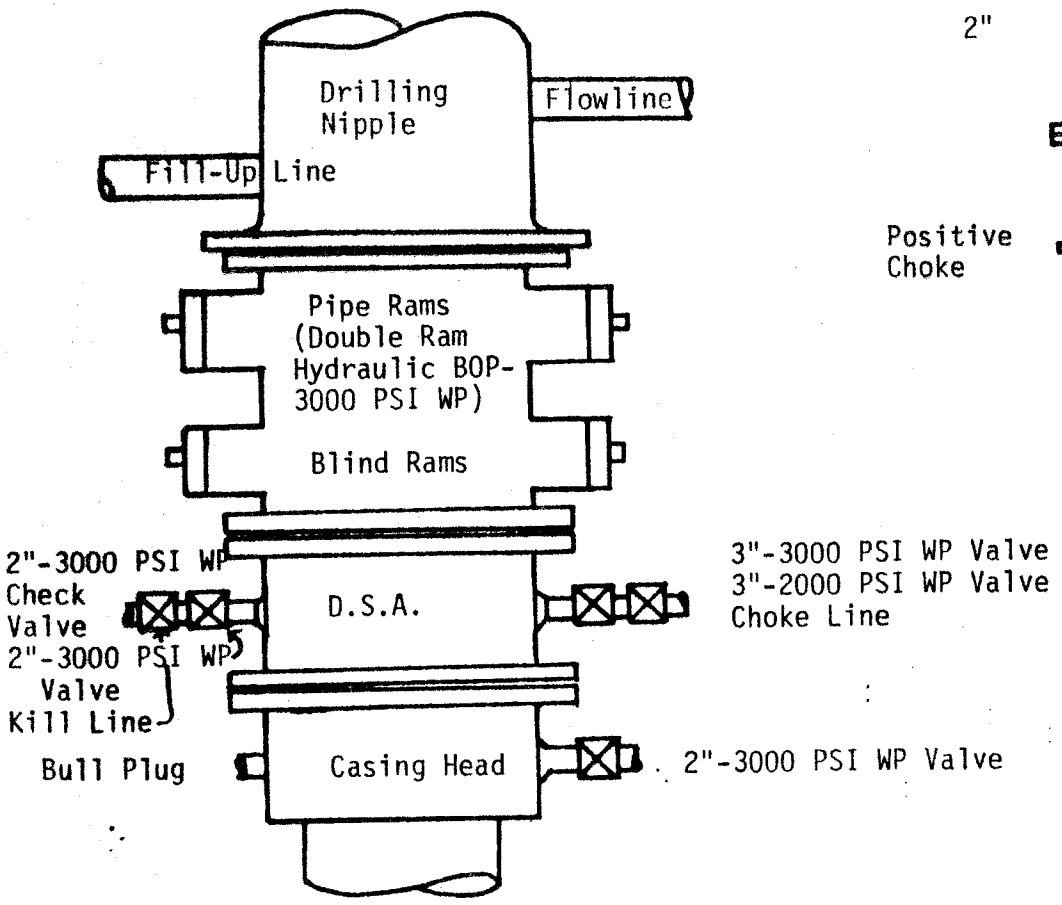
2. (Dry Hole) Setting and testing of surface casing shoe plug.

3. (Depleted Producer) The setting and testing of plugs across producing horizon and if applicable the surface casing shoe plug and/or annulus (casing to formation) squeeze jobs.

p. Notify the San Juan Resource area (Mike Wade) one day or (on a dry hole) as soon as possible prior to the above at (801) 587-2141 (W) or (801) 587-2026 (H). If unable to reach Mike, call Moab District Office - Greg Noble at (801) 259-6111 (W) or (801) 259-8811 (H).

PLAIN VIEW-CHOKE MANIFOLD





The hydraulic clisng unit will be located in the parts house, 85' from the wellhead. Choke & bleed/panic lines will go to the pit and flare.

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SURFACE USE PLAN

ONSHORE OIL & GAS ORDER NO. 1

Thirteen Point Surface Use Plan

1. Existing Roads

   a. The proposed well site is located 22 miles east of Blanding, Utah.

   b. Directions to the location from Blanding are as follows:

      Go south on Highway 47 for 1.5 miles. Turn east onto the County Road and proceed 1.3 miles. Turn south on the County Road (Perkins #206) and proceed southwesterly for approximately 15 miles. Turn north onto County Road (Alkali #204) and proceed 2.7 miles. Turn right (east) onto the graded road leading to the Deadman Canyon #1-20 and proceed 3/4 mile Turn left and proceed north and east 1.0 miles. Before reaching the 1-20 wellpad, turn right and proceed approximately 2300' to the #2-20 wellpad. Just before reaching the wellpad, follow the flagging to the right for approximately 1100' to the proposed location.

   c. The roads in the area are primarily county roads. See Maps #1 and #2.

   d. Improvement to the existing access will not be necessary.

   e. All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

   f. An encroachment permit will be obtained from the San Juan County Road Department, 801/587-2231, ext. 43.

2. Planned Access Roads

   a. The last 1100 feet will be new access. The road will be flat bladed initially during construction and upgraded if production is established.

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SURFACE USE PLAN

2. Planned Access Roads (cont.)

b. The maximum total disturbed width will be 30 feet.

c. The grade will be 5%.

d. Turnouts will be installed as needed. No culverts will be needed at this time. Drainage will be installed as needed.

e. We are requesting that a right-of-way grant be issued for the access road outside Lease No. U-20544. The length of road crossing BLM land is approximately 1.3 miles. Enclosed is our check in the amount of $100.00 to cover the right-of-way fees.

f. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance by the San Juan Area Manager.

g. The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road.

h. The Class III Road Standards which ensure drainage control over the entire road through the use of natural, rolling topography; ditch turnouts; drainage dips; outsloping; crowning; low water crossings; and culverts will be determined at the appropriate field inspection.

3. Location of Existing Wells Within a 1-Mile Radius of the Proposed Location. (See Map #3).

a. Water Wells - none

b. Injection or disposal wells - none

c. Producing Wells - two (#1-20 and #2-20 waiting on completion)

d. Drilling Wells - one (#3-20)

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4. Location of Tank Batteries and Production Facilities.

a. All permanent structures (onsite for six months or longer) constructed or installed (including oil well pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The color will be Juniper Green to match the trees.

b. If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the battery.

c. Production facilities for this well will be located on this wellpad. See Diagram #1 for layout of facilities.

d. All loading lines will be placed inside the berm surrounding the tank battery.

e. Any necessary pits will be properly fenced to prevent any wildlife entry. The production pit will be flagged overhead.

f. All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

g. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

h. Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.

SURFACE USE PLAN

4. Production Facilities (cont.)

i. The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Moab District Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

5. Location and Type of Water Supply

a. All water needed for drilling purposes will be obtained from a private source.

b. Water will be trucked to location over the county roads in the area.

c. No water well is to be drilled on this lease.

d. Use of water for this operation will approved by obtaining a temporary use permit from the Utah State Engineer, 801/637-1303, and by receiving permission from the land owner or surface management agency to use the land containing the water source.

6. Source of Construction Material

a. Road surfacing material will be obtained from a commercial source. Pad construction material will be native.

b. The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3. Construction material will be located on lease.

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7. Methods for Handling Waste Disposal

a. The reserve pit will be lined with a plastic pit liner due to the fact that the reserve pit will not be 1/2 in cut.

b. Three sides of the reserve pit will be fenced with four strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.

c. A trash pit will be constructed near the mud tanks and dug at least six feet into solid, undisturbed material. It will be totally enclosed with a fine wire mesh before the rig moves in. The road and pad will be kept litter free. If a trash cage is used, its contents will be hauled to an approved landfill.

d. A burning permit is required for burning trash between May 1 and October 31. This will be obtained from the San Juan County Sheriff at (801) 587-2237 if operations should extend past May 1st.

e. Produced waste water will be confined to a lined pit for a period not to exceed 90 days after initial production. During the 90-day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

8. Ancillary Facilities

a. There are no airstrips, camps, or other facilities planned during the drilling of the proposed well.

9. Well Site Layout

a. See Diagram #2 for rig layout. See Diagram #3 for cross section of drill pad. See Diagram #4 for cuts and fills.

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9. Wellsite Layout (cont.)

b. The location of mud tanks; reserve, burn and trash pits; pipe racks; living facilities and soil stockpiles will be shown on Diagram #2 and #4. The location will be laid out and constructed as discussed during the predrill conference.

c. The top 3-4 inches of soil material will be removed from the location and stockpiled separate from the trees on the southwest side of the location. Topsoil along the access will be reserved in place.

d. Access to the well pad will be from the northwest.

10. Reclamation

a. Immediately upon completion of drilling, all trash and debris will be collected from the location and surrounding area. All trash and debris will be disposed of in the trash pit and will then be compacted and buried under a minimum of two feet of compacted soil.

b. The operator or his contractor will contact the San Juan Resource Area office in Monticello, Utah (801/587-2141) 48 hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.

c. Before any dirt work to restore the location takes place, the reserve pit must be completely dry.

d. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.

e. The stockpiled topsoil will be spread evenly over the disturbed area. All disturbed areas will be ripped 12 inches deep with the contour.

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SURFACE USE PLAN

10. Reclamation of Surface (cont.)

f. Water bars will be built as follows to control erosion.

Grade	Spacing
2%	Every 200 Feet
2-4%	Every 100 Feet
4-5%	Every 75 Feet
5+%	Every 50 Feet

g. Seed will be broadcast between October 1 and February 28 with the following prescription. A harrow or similar implement will be dragged over the area to assure seed cover.

4 lbs/acre Galleta (Hilaria jamesii)
6 lbs/acre Western wheatgrass (Agropyron smithii)
3 lbs/acre Fourwing saltbush (Atriplex canenscens)
1 lb/ acre Yellow sweetclover

h. After seeding is complete, the stockpiled trees will be scattered evenly over the disturbed areas. The access will be blocked to prevent vehicular access.

i. The reserve pit and that portion of the location and access road not needed for production and production facilities will be reclaimed as described in the reclamation section. Enough topsoil will be kept to reclaim the remainder of the location at a future date. This remaining stockpile of topsoil will be seeded in place using the prescribed seed mixture.

11. a. Surface Ownership

Federal

b. Mineral Ownership

Federal

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SURFACE USE PLAN

12. Other Information

a. There will be no change from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.

b. "Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

c. The dirt contractor will be provided with an approved copy of the surface use plan.

d. If subsurface cultural materials are exposed during construction, work in that spot will stop immediately and the San Juan Resource Area Office will be contacted. All people who are in the area will be informed by the operator that they are subject to prosecution for disturbing archeological sites or picking up artifacts. Salvage or excavation of identified archeological sites will be done by a BLM approved archeologist only if damage occurs.

e. This permit will be valid for a period of one year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.

f. An archeological study was conducted by LaPlata Archaeological Consultants. No significant cultural resources were found and clearance is recommended. A copy of this report will be submitted directly by LaPlata Archeological Consultants.

g. Your contact with the District Office is: Greg Nobel, 801/259-6111, P.O. Box 970, Moab, Utah 84532.

The Resource Area Manager's address is P.O. Box 7, Monticello, Utah 84532. Your contact is Richard McClure, 801/587-2141.

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CONFIDENTIAL

SURFACE USE PLAN

13. Lessee's or Operator's Representative and Certification

Permit Matters	Drilling & Completion Matters
PERMITCO INC. Lisa L. Green P.O. Box 44065 Denver, CO 80201-4065 303/322-7878	QUINTANA PETROLEUM CORP. 1050-17th St. Suite 400 Denver, CO 80265 303/628-9211 (W) - 303/969-9468 (H) - Scott Kimbrough

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Quintana Petroleum Corp. and its contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved.

February 11, 1987
Date:

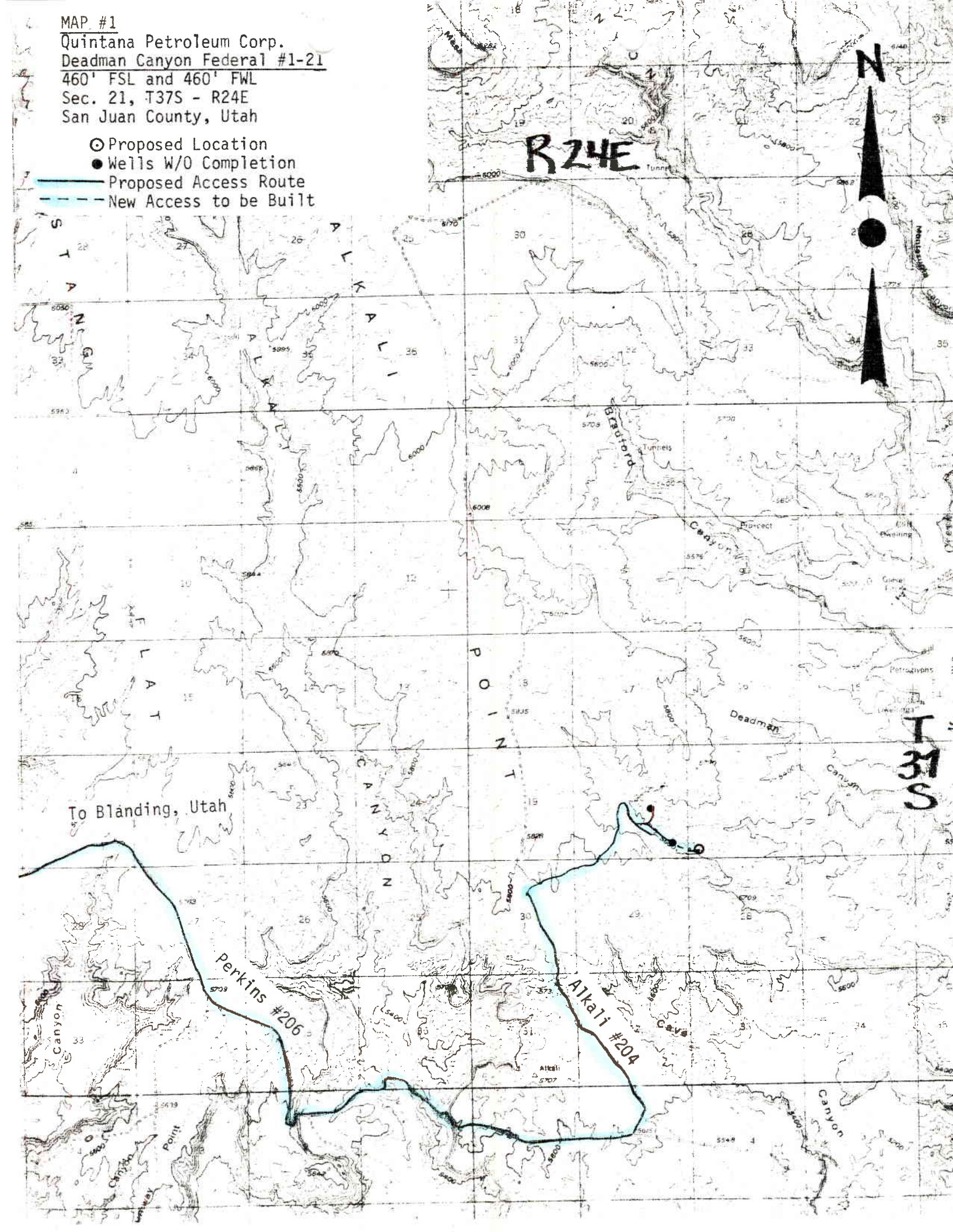
Lisa L. Green - PERMITCO INC.
Authorized Agent for:
QUINTANA PETROLEUM CORP.

Permitco

Permitco Incorporated
A Petroleum Permitting Company

MAP #1
Quintana Petroleum Corp.
Deadman Canyon Federal #1-21
460' FSL and 460' FWL
Sec. 21, T37S - R24E
San Juan County, Utah

⊙ Proposed Location
● Wells W/O Completion
——— Proposed Access Route
- - - - New Access to be Built



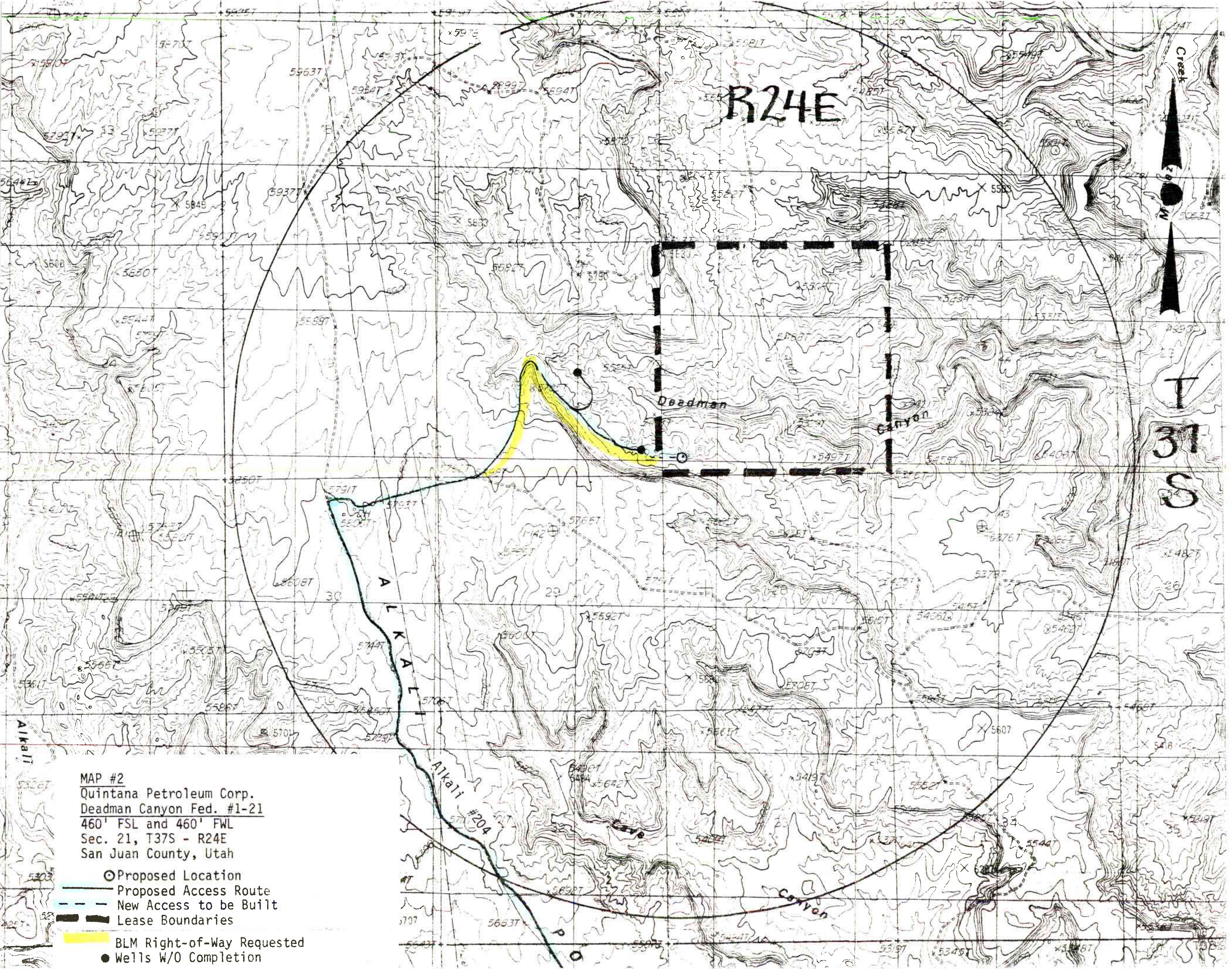
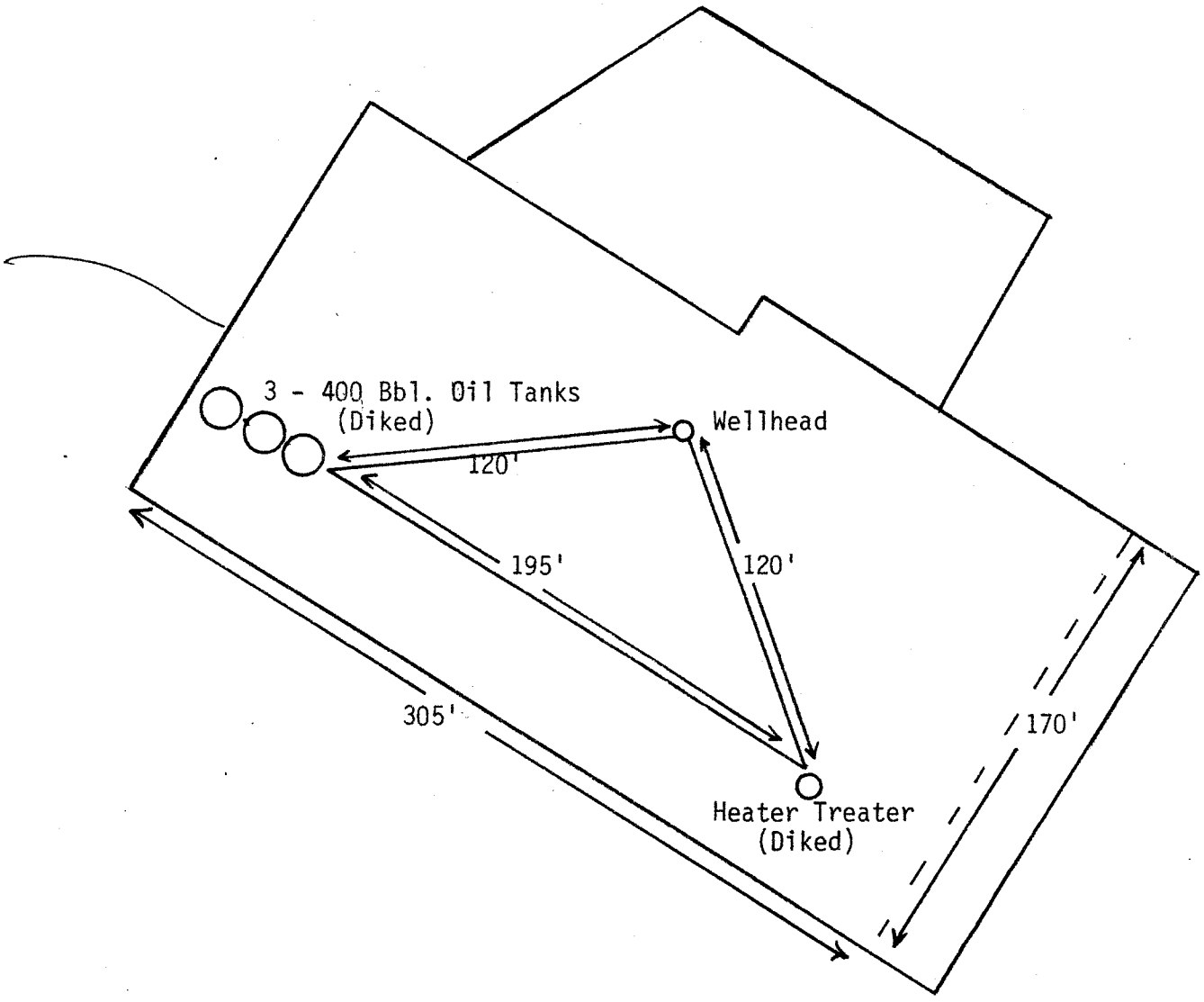

R24E
T
37
S
Deadman
Canyon
ALKALI
Alkali
Alkali #204
Cave
Canyon
Creek
MAP #2
Quintana Petroleum Corp.
Deadman Canyon Fed. #1-21
460' FSL and 460' FWL
Sec. 21, T37S - R24E
San Juan County, Utah
Proposed Location
Proposed Access Route
New Access to be Built
Lease Boundaries
BLM Right-of-Way Requested
Wells W/O Completion

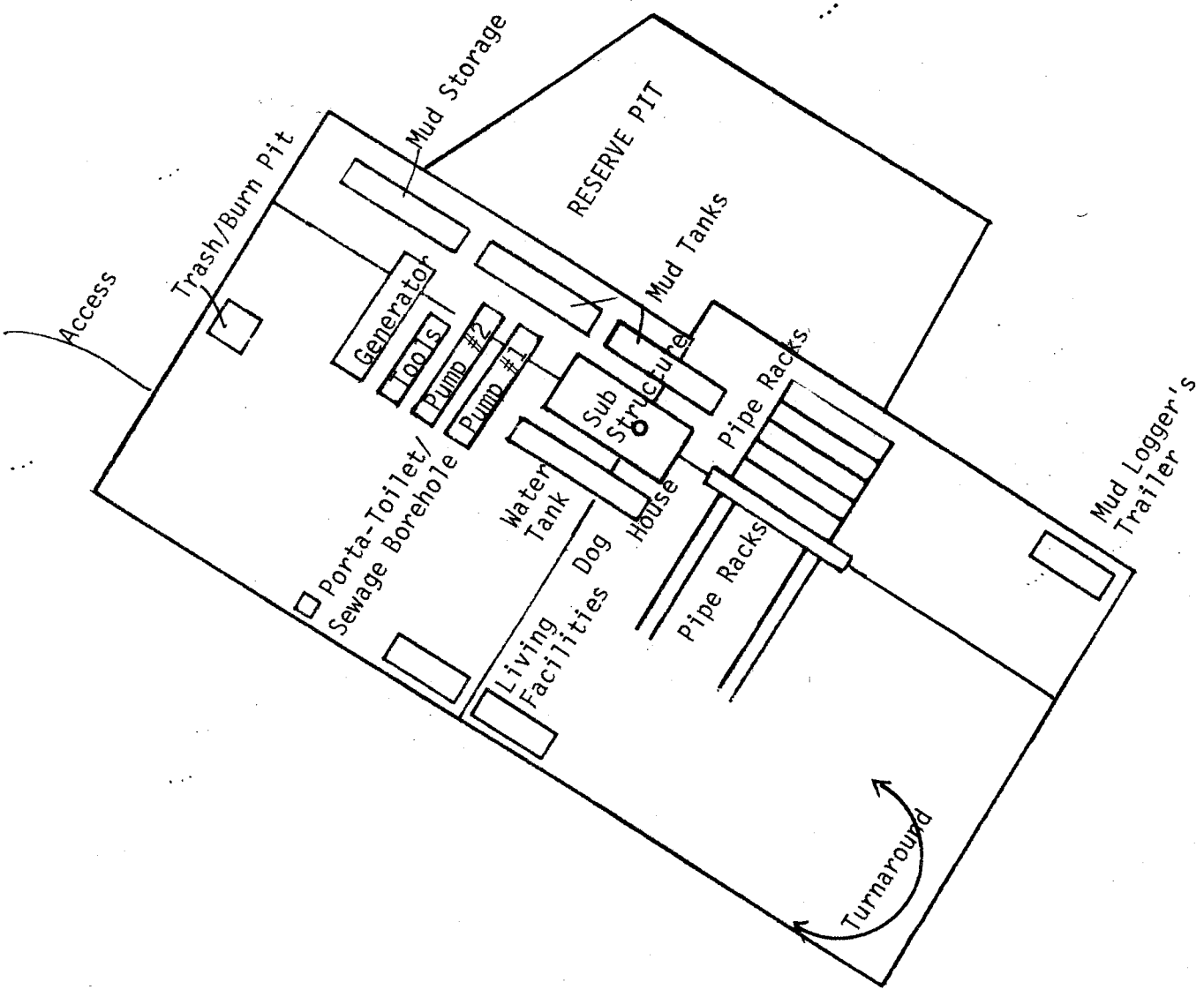
DIAGRAM #1
Production Facility Layout

Quintana Petroleum Corp.
Deadman Canyon Federal #1-21
460' FSL and 460' FWL
Sec. 21, T37S - R24E
San Juan County, Utah



Scale: 1" = 60'

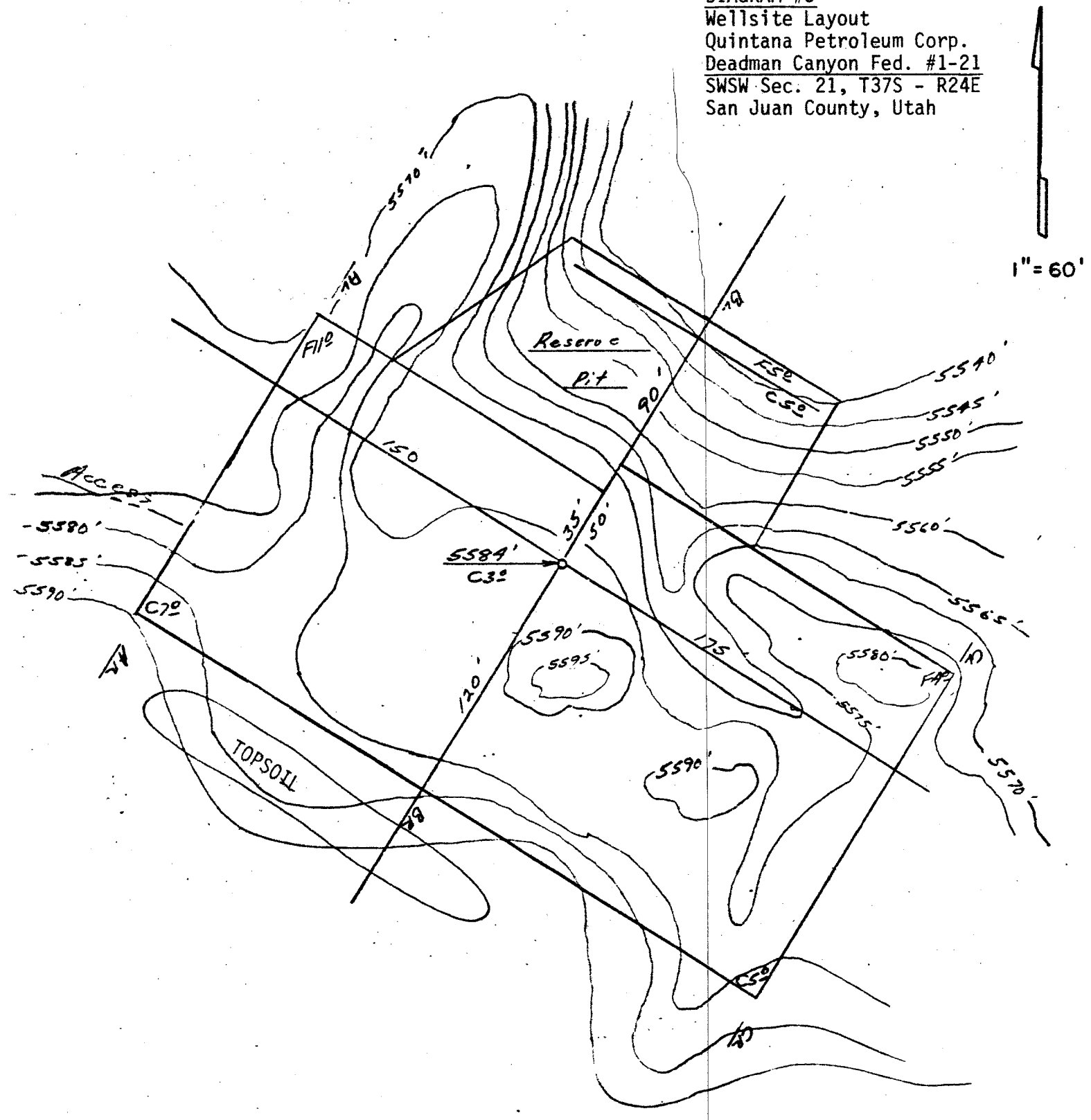
DIAGRAM #2
Rig Layout
Quintana Petroleum Corp.
Deadman Canyon Federal #1-21
460' FSL and 460' FWL
Sec. 21, T37S - R24E
San Juan County, Utah



WELL PAD PLAN VIEW

Well DMC 1-21

DIAGRAM #3
Wellsite Layout
Quintana Petroleum Corp.
Deadman Canyon Fed. #1-21
SWSW Sec. 21, T37S - R24E
San Juan County, Utah



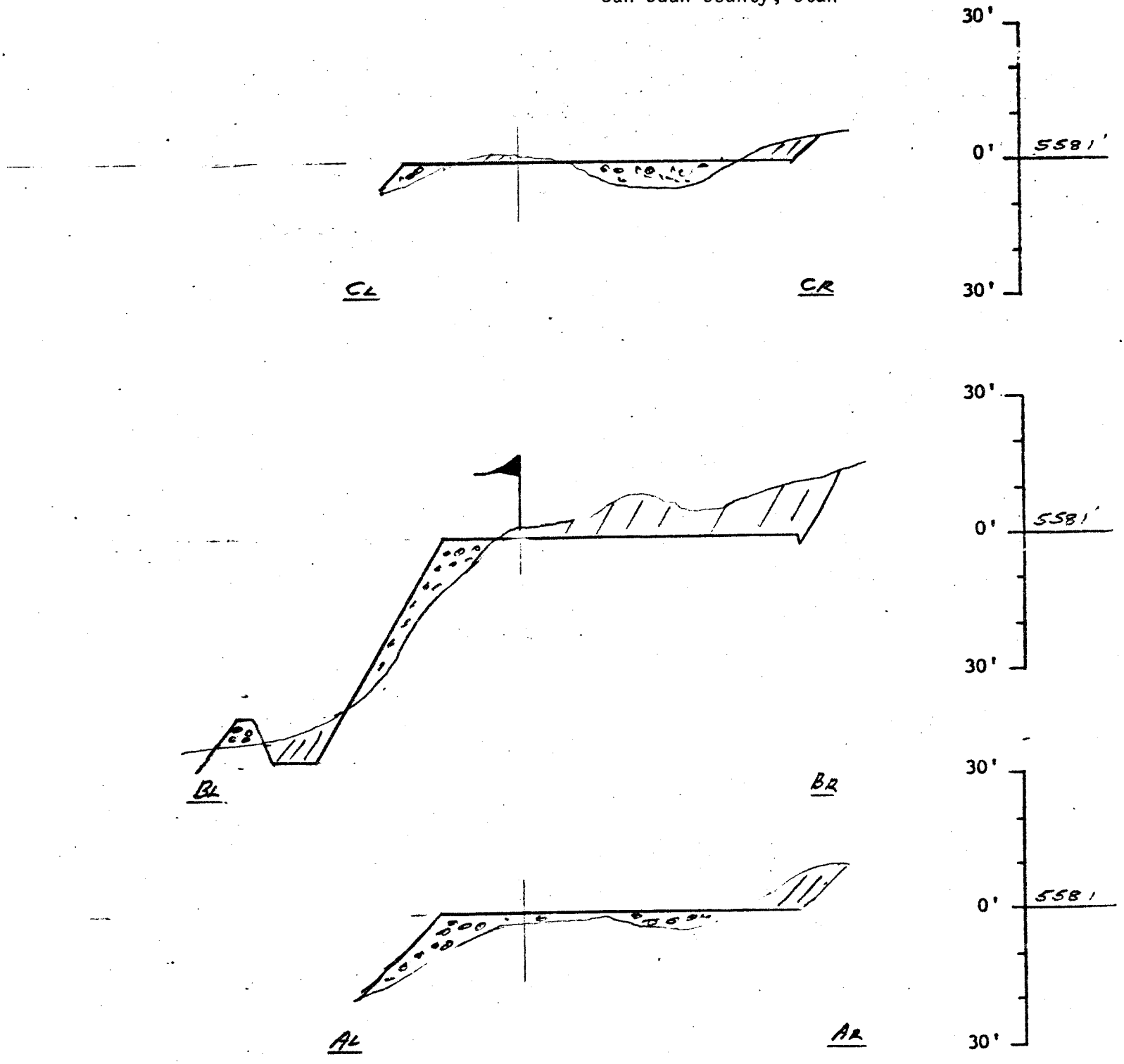
WELL PAD CROSS-SECTION

DMC 1-21

DIAGRAM #4
Quintana Petroleum Corp.
Deadman Canyon Federal #1-21
SWSW Sec. 21, T37S - R24E
San Juan County, Utah

Cut /////
Fill

Scales: 1" = 60' H.
1"=30' V.



~~CONFIDENTIAL~~ 022301

022315

OPERATOR Quintana Petroleum Corp. DATE 2-19-87

WELL NAME Deadman Canyon Fed 1-21

SEC SW SW 21 T 37S R 24E COUNTY San Juan

43-037-31309	Fed
API NUMBER	TYPE OF LEASE

CHECK OFF:

✓ PLAT	✓ BOND	✓ NEAREST WELL
✓ LEASE	✓ FIELD	✓ POTASH OR OIL SHALE

PROCESSING COMMENTS:

~~No other wells within 920'~~ Unit well - OK on P.O.D 2/25/87

Need water permit

APPROVAL LETTER:

SPACING: ✓ 203 Bradford Canyon UNIT ✓ 302

☐ _____ CAUSE NO. & DATE ☐ 302.1

STIPULATIONS:

1- Water

0218T

Form 3160-3
(November 1983)
(formerly 9-331C)

RECEIVED
APR 02 1987
DIVISION OF OIL, GAS & MINING

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

CONFIDENTIAL 040749

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: U-20544

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

1a. TYPE OF WORK: DRILL [XX] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [XX] GAS WELL [ ] OTHER — SINGLE ZONE [XX] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME: Bradford Canyon

8. FARM OR LEASE NAME: Deadman Canyon Fed.

2. NAME OF OPERATOR: Quintana Petroleum Corp. 303/628-9111
1050-17th St., Suite 400
Denver, CO 80265

9. WELL NO.: #1-21

3. ADDRESS OF OPERATOR: PERMITCO INC. - Agent 303/322-7878
P.O. Box 44065
Denver, CO 80201-4065

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 460' FSL and 460' FWL
At proposed prod. zone: SW SW

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 21, T37S - R24E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 22 miles southeast of Blanding, Utah

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
460'	640	40
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
none	6125'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5584' GR

22. APPROX. DATE WORK WILL START*: March 15, 1987

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36#	2000'	760 sx or suffic. to circ to surf.
8-3/4"	5-1/2"	15.5 & 17#	6125'	320 sx or suffic. to cover zones of interest.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED: Gene S. Green TITLE: Authorized Agent for Quintana Petroleum Corp. DATE: 2/11/87

(This space for Federal or State office use)

PERMIT NO. 43-037-31309 APPROVAL DATE

APPROVED BY: /S/ GENE NODINE TITLE: DISTRICT MANAGER DATE: MAR 31 1987

CONDITIONS OF APPROVAL, IF ANY:

FLARING OR VENTING OF GAS IS SUBJECT OF NTL 4-A DATED 1/1/80

CONDITIONS OF APPROVAL ATTACHED

SUBJECT TO RIGHT OF WAY APPROVAL

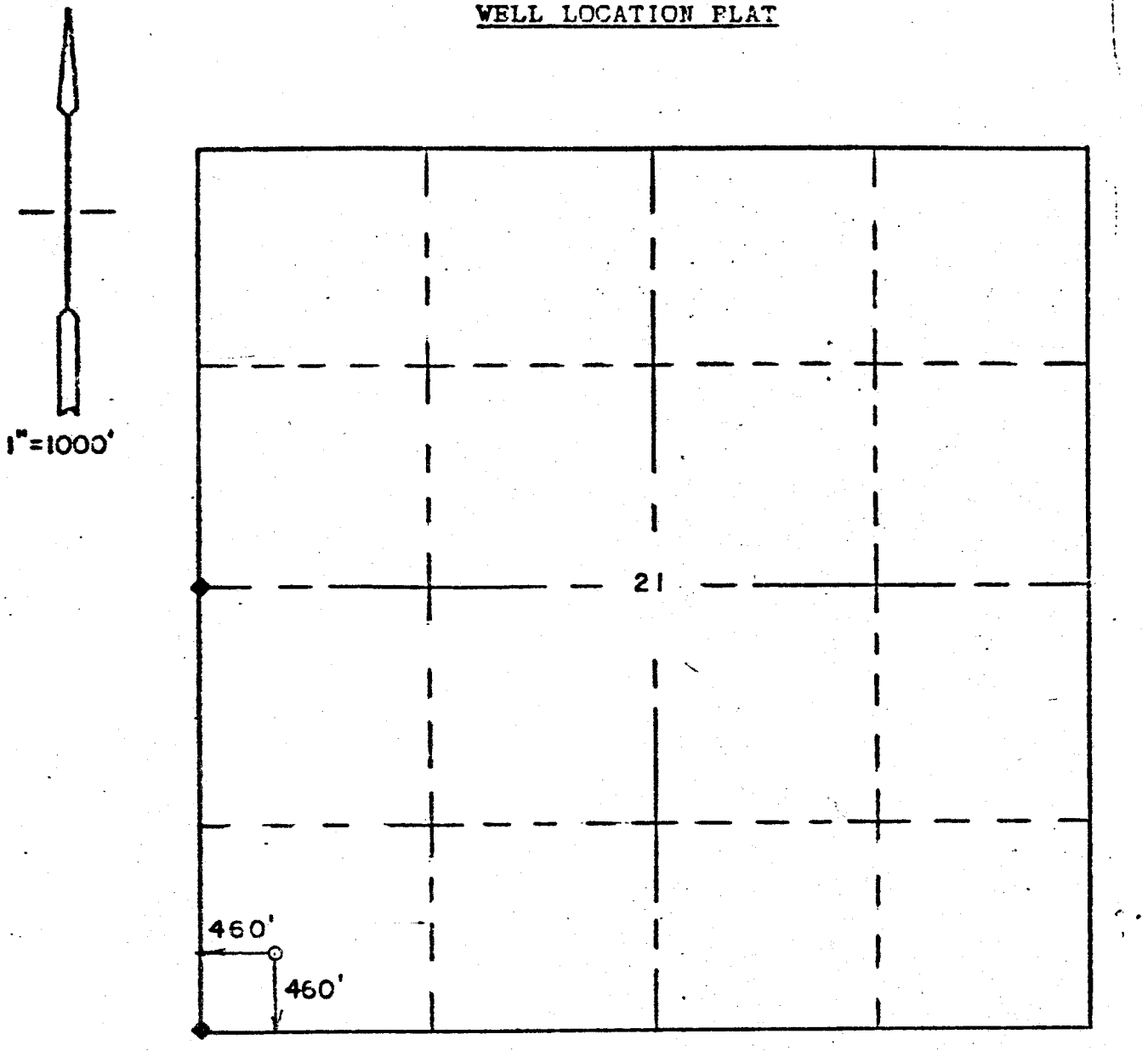
*See Instructions On Reverse Side

State of Utah-DOGM

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the

PLAT #1

WELL LOCATION PLAT



WELL LOCATION DESCRIPTION:

Quintana Petroleum
Deadman Canyon # 1-21
460'FSL & 460'FWL
Section 21, T.37 S., R.24 E., SLM
San Juan County, Utah
5584' grd. elevation
References: 200' West 5581'
200' South 5596'

The above plat is true and correct to my knowledge and belief.

02-07-'87

Gerald G. Huddleston, LS

REGISTERED LAND SURVEYOR
GERALD G.
HUDDLESTON
STATE OF UTAH

Quintana Petroleum Corp
Well No. Deadman Canyon Fed. 1-21
Sec. 21, T. 37 S., R. 24 E.
San Juan County, Utah
Lease U-20544

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 25, 1987

Quintana Petroleum Corporation
1050 17th Street, Suite 400
Denver, Colorado 80265

Gentlemen:

Re: Deadman Canyon Federal 1-21 - SW SW Sec. 21, T. 37S, R. 24E
460' FSL, 460' FWL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Section 40-6-18, Utah Code Annotated, as amended 1983; and predicated on Rule 203, Oil and Gas Conservation General Rules, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.

2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.

3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.

4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, Oil and Gas Conservation General Rules.

5. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable State and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.

6. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31309.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

as
Enclosures
cc: Branch of Fluid Minerals
D. R. Nielson
8159T

WATER PERMIT OK

051401

DIVISION OF OIL, GAS AND MINING

43-037-31309

SPUDDING INFORMATION

NAME OF COMPANY: QUINTANA PETROLEUM

WELL NAME: DEADMAN CANYON #1-21

SECTION SW SW 21 TOWNSHIP 37S RANGE 24E COUNTY SAN JUAN

DRILLING CONTRACTOR COLEMAN

RIG # 3

SPUDDED: DATE 5-11-87

TIME 11:30 pm

HOW Rotary

DRILLING WILL COMMENCE _____

REPORTED BY Bob Blaylock

TELEPHONE # 678-2278 rm. 157

DATE 5/13/87 SIGNED JRB

May 20, 1987
11 a.m.

Bob Blaylock of QUINTANA called to inform DOGM that they are plugging the:

DEADMAN CANYON FEDERAL 1-21
SW SW 21, 37S, 24E
SAN JUAN COUNTY, KB = 14'

THE WELL IS ON BLM LAND.

They will start setting plugs on 5-22-87 late in the afternoon.

BLM PLUGGING ORDERS:
100' cement plug from 0 - 100'
100' cement plug from 1954' - 2054'
100' cement plug from 5783' - 5883'.

Top of Ismay = 5783'
Surface casing set to 2004'.

Mr. Blaylock can be reached at THE WAYSIDE INN in Monticello, 587-2261, Rm. 128.

C. Revelt.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR
QUINTANA PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
1050 - 17th Street, Suite 400, Denver, Colorado 80265
(303)628-9211

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
460' FSL & 460' FWL
(SW SW)

5. LEASE DESIGNATION AND SERIAL NO.
U-20544

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

060210 Bdg

7. UNIT AGREEMENT NAME
Bradford Canyon

8. FARM OR LEASE NAME
DEADMAN CANYON FEDERA

9. WELL NO.
#1-21

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 21, T37S-R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. PERMIT NO.
43-037-31309

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5584' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]				
(Other) PROGRESS REPORT	[XX]			(Other)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

SUMMARY OF OPERATIONS - As of 5/23/87

1. MI & RU Coleman Rig #3. Spud 5/12/87.
2. Drilled to 2004'. Set and cemented 9 5/8" casing.
3. Drilled to 5896'. Ran DST #1.
4. Drilled to 6160'. Logged.
5. Plugged and abandoned well. Rig released 5/23/87.

CONFIDENTIAL

RECEIVED
MAY 28 1987
DIVISION OF
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED J M Williams TITLE Production Technician DATE 5/26/87

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

cc: Utah DOGM

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR
QUINTANA PETROLEUM CORPORATION (303)628-9211

3. ADDRESS OF OPERATOR
1050 - 17th Street, Suite 400, Denver, Colorado 80265

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
460' FSL & 460' FWL
(SW SW)

CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NO.
U-20544

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
Bradford Canyon

8. FARM OR LEASE NAME
DEADMAN CANYON FEDERAL

9. WELL NO.
#1-21

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 21, T37S-R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. PERMIT NO.
43-037-31309

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5584' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[X]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Verbal permission received from Max Day, BLM - Moab, 5/21/87 to plug and abandon well. Plugs set as follows:

Plug #1: 5800'-6000', 66 sxs Class "B" w/2% $CaCl_2$
Plug #2: 2054'-1954', 34 sxs Class "B" w/2% $CaCl_2$
Plug #3: 100'-surface, 34 sxs Class "B" w/2% $CaCl_2$

Rig released 0100 hrs 5/23/87. BLM did not witness plugging.

RECEIVED
JUN 08 1987
DIVISION OF
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED JM Williams TITLE Production Technician DATE 6/3/87

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 6-9-87
BY: John R. Baza

cc: Utah DOGM

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-4
(November 1983)
(formerly 9-330)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE (See other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

13

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: QUINTANA PETROLEUM CORPORATION (303)628-9211

3. ADDRESS OF OPERATOR: 1050 - 17th Street, Suite 400, Denver, Colorado 80265

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 460' FSL & 460' FWL (SW SW)
At top prod. interval reported below: ---
At total depth: Same

CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NO.: U-20544
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
062907
7. UNIT AGREEMENT NAME: Bradford Canyon
8. FARM OR LEASE NAME: DEADMAN CANYON FEDERAL
9. WELL NO.: #1-21
10. FIELD AND POOL, OR WILDCAT: Wildcat
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Section 21, T37S-R24E

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
43-037-31309	2/25/87	San Juan	Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
5/12/87	5/21/87	P&A 5/23/87	5584' GR	5584'

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
6160'	N/A		→	0'-6160'	N/A

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: DRY HOLE

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: DIL, BHC-Sonic, CDL/CNL, Dipmeter

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8"	36#	2004'	12 ¼"	560 sxs Lite, 200 sxs "B"	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
N/A				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
N/A		

31. PERFORATION RECORD (*Interval, size and number*)
N/A

RECEIVED
JUN 25 1987
DIVISION OF
OIL, GAS & MINING

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
Plug #1: 5800'-6000'	66 sxs "B"
Plug #2: 2054'-1954'	34 sxs "B"
Plug #3: 100'-surface	34 sxs "B"

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
N/A - DRY HOLE		P&A

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED J M Williams TITLE Production Technician DATE 6/23/87

cc: Utah DOGM

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
DST #1: 5766'-5896'			
Times: 30/60/60/120			
IHP 2556			
IFP 40-94			
ISIP 1119			
FFP 161-255			
FSIP 1066			
FHP 2516			
DP Recovery:	590' drlg mud w/tr fm.		water. No tr oil.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
Hermosa	4744'	
Upper Ismay	5772'	
Hovenweep Sh	5941'	
Lower Ismay	5972'	
Gothic Sh	6017'	
Desert Creek	6047'	
Chimney Rock	6119'	
Akah	6144'	
Total Depth	6160'	

QUINTANA PETROLEUM CORPORATION

1050 SEVENTEENTH STREET
SUITE 400
DENVER, COLORADO 80265
(303) 628-9211

September 3, 1987

State of Utah
Division of Oil, Gas & Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1204

RE: Deadman Canyon Federal #1-21
SW SW Section 21, T37S-R24E
San Juan County, Utah

~~CONFIDENTIAL~~

Gentlemen:

Enclosed for your files please find copies of the following information on the subject well:

1. Electric Logs
2. Mud Logger's Report & Log
3. Geologist's Report
4. DST #1

I inadvertently failed to send these with the copy of the Completion Report mailed to your office 6/23/87.

We request that this information be held confidential for the maximum amount of time allowable.

Very truly yours,

Jeannie Williams
Production Technician

/jw
enclosures

ELECTRIC LOGS REC'D 9-8-87
DUAL INDUCTION LATEROLOG (2)
INCLINE COMPUTED DIPMETER RESULTS (2)
BHC SONIC LOG W/BOREHOLE VOLUME (2)
COMP DENSITY/COMP NEUTRON LOG (2)
MUD LOG (2)

UC-DOGM

HALLIBURTON SERVICES

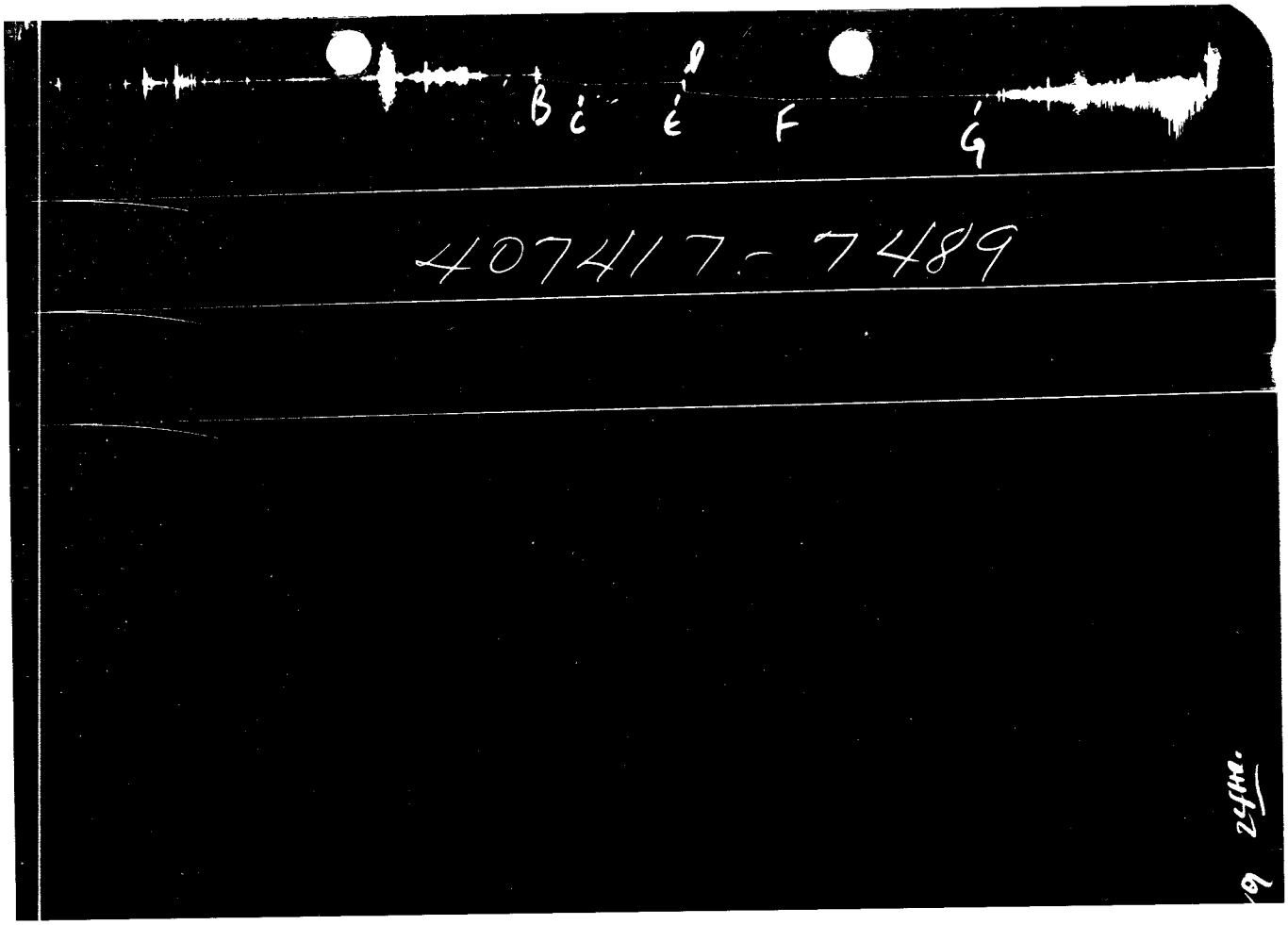
TICKET NO. 40741700
05-JUN-87
FARMINGTON

CONFIDENTIAL

FORMATION TESTING SERVICE REPORT

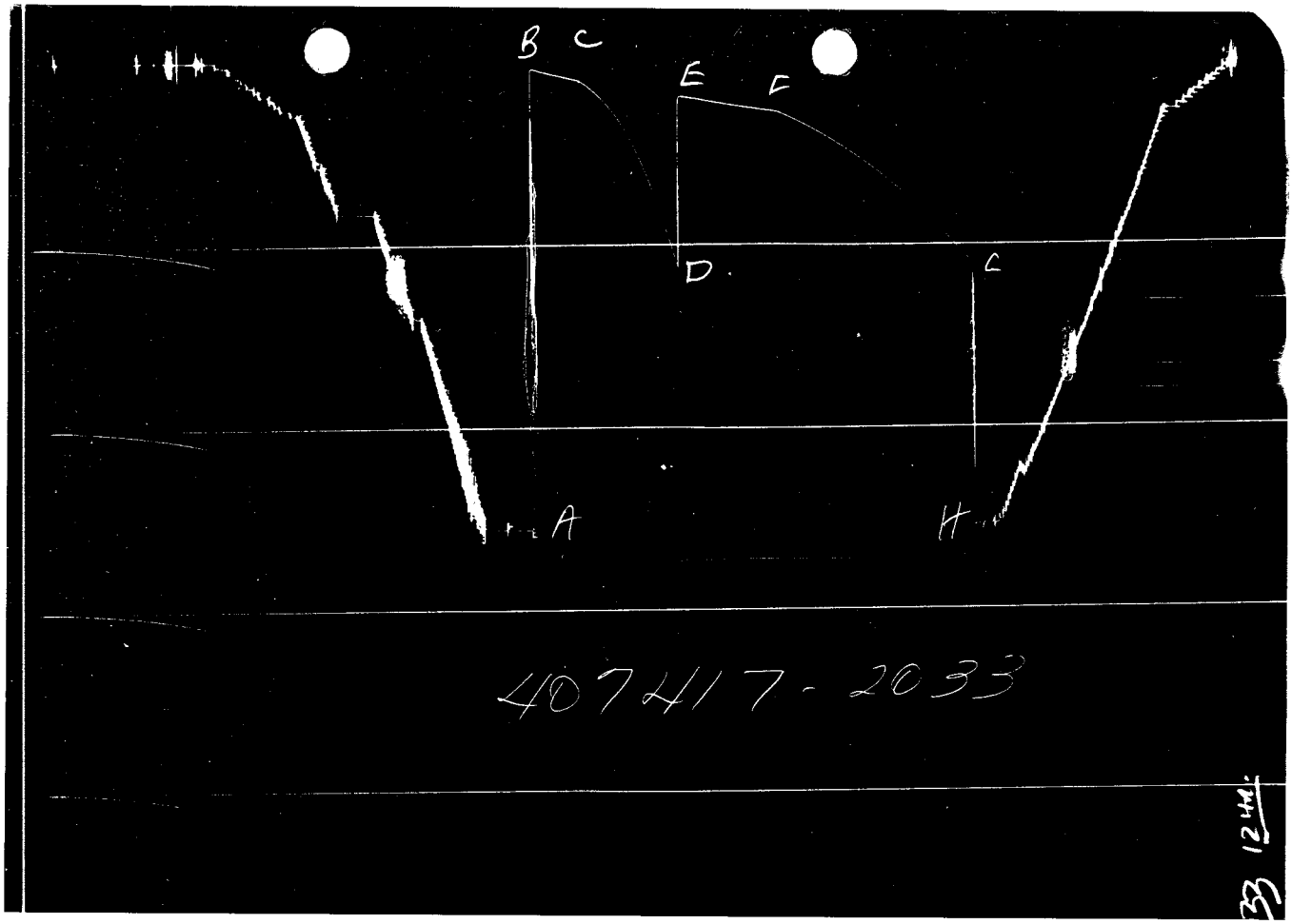
LEGAL LOCATION SEC. - TWP. - RNG.	FIELD AREA	COUNTY	STATE
21 37S-24E	WILDCAT	SAN JUAN	UTAH SM

LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
DEADMAN CANYON FEDERAL	1-21	1	5766.0 - 5886.0	QUINTANA PETROLEUM CORPORATION



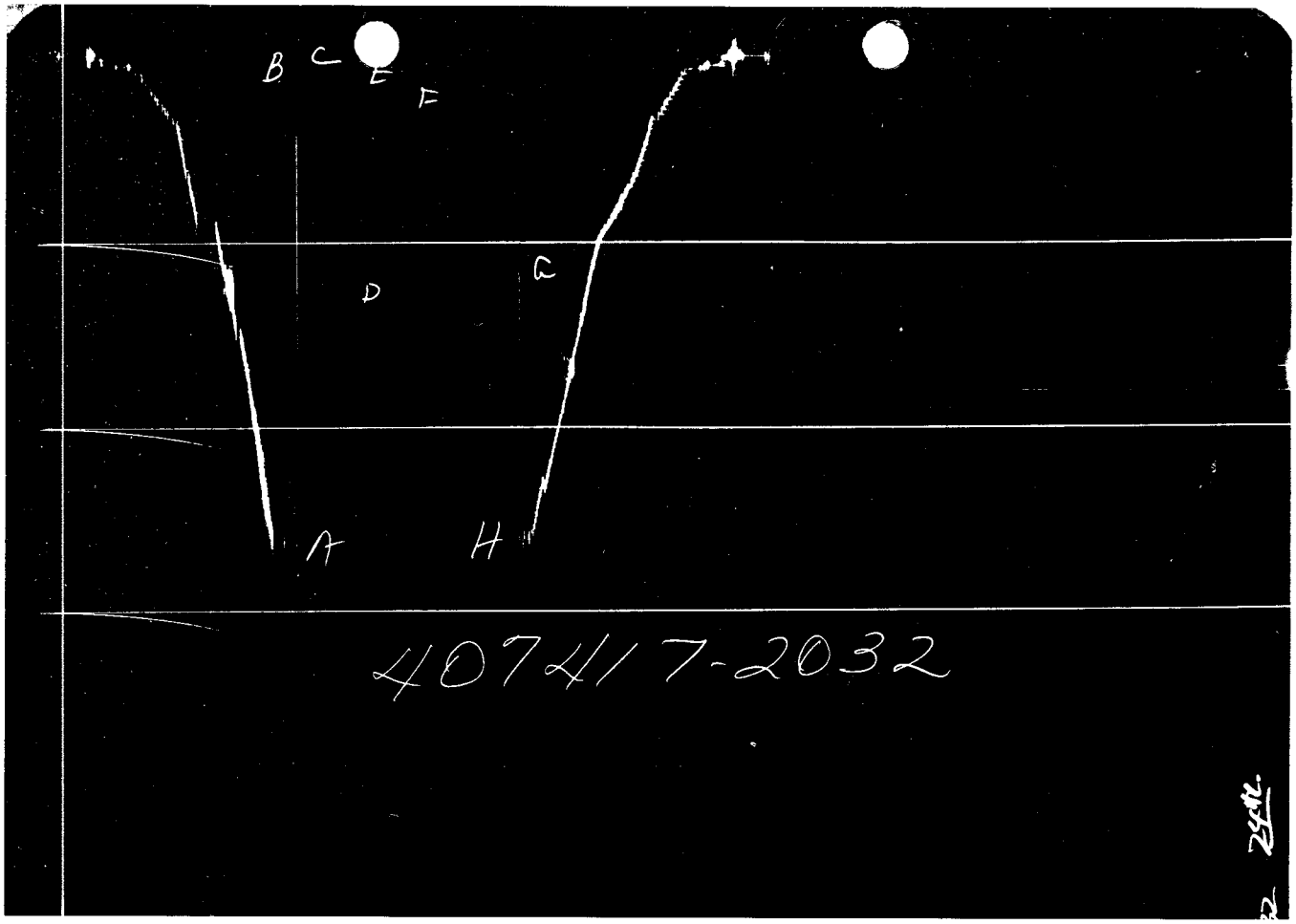
GAUGE NO: 7489 DEPTH: 5728.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	43	17.8	31.0	30.3	F
C	FINAL FIRST FLOW	108	99.8			
C	INITIAL FIRST CLOSED-IN	108	99.8	60.0	59.6	C
D	FINAL FIRST CLOSED-IN	108	98.7			
E	INITIAL SECOND FLOW	173	130.2	60.0	61.1	F
F	FINAL SECOND FLOW	239	272.2			
F	INITIAL SECOND CLOSED-IN	239	272.2	120.0	119.9	C
G	FINAL SECOND CLOSED-IN	239	274.4			
H	FINAL HYDROSTATIC					



GAUGE NO: 2033 DEPTH: 5745.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2556	2563.3			
B	INITIAL FIRST FLOW	40	41.4	31.0	30.3	F
C	FINAL FIRST FLOW	94	101.5			
C	INITIAL FIRST CLOSED-IN	94	101.5	60.0	59.6	C
D	FINAL FIRST CLOSED-IN	1119	1117.5			
E	INITIAL SECOND FLOW	161	189.0	60.0	61.1	F
F	FINAL SECOND FLOW	255	268.6			
F	INITIAL SECOND CLOSED-IN	255	268.6	120.0	119.9	C
G	FINAL SECOND CLOSED-IN	1066	1098.9			
H	FINAL HYDROSTATIC	2516	2534.5			



GAUGE NO: 2032 DEPTH: 5893.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2632	2640.1			
B	INITIAL FIRST FLOW	93	104.5	31.0	30.3	F
C	FINAL FIRST FLOW	159	168.9			
C	INITIAL FIRST CLOSED-IN	159	168.9	60.0	59.6	C
D	FINAL FIRST CLOSED-IN	1177	1183.3			
E	INITIAL SECOND FLOW	252	256.1	60.0	61.1	F
F	FINAL SECOND FLOW	345	341.4			
F	INITIAL SECOND CLOSED-IN	345	341.4	120.0	119.9	C
G	FINAL SECOND CLOSED-IN	1138	1175.3			
H	FINAL HYDROSTATIC	2593	2617.6			

EQUIPMENT & HOLE DATA

FORMATION TESTED: ISMAY
NET PAY (ft):
GROSS TESTED FOOTAGE: 130.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.750
ELEVATION (ft): 5584.0
TOTAL DEPTH (ft): 5896.0
PACKER DEPTH(S) (ft): 5760, 5766
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 8.60
MUD VISCOSITY (sec): 37
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 126 @ 5893.0 ft

TICKET NUMBER: 40741700

DATE: 5-20-87 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: FARMINGTON

TESTER: DELL GUNN

WITNESS:

DRILLING CONTRACTOR: COLEMAN DRILLING RIG #3

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY		CHLORIDES
MUD PIT	1.480 @ 64 °F		2424 ppm
TOP	1.420 @ 78 °F		2181 ppm
MIDDLE	1.500 @ 78 °F		2121 ppm
BOTTOM	0.420 @ 78 °F		8363 ppm
SAMPLER	0.400 @ 78 °F		8484 ppm
	@ °F		ppm

SAMPLER DATA

Psig AT SURFACE: 170.0
cu.ft. OF GAS: 0.070
cc OF OIL:
cc OF WATER:
cc OF MUD: 2300.0
TOTAL LIQUID cc: 2300.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

590 FEET OF DRILLING FLUID

MEASURED FROM TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 40741700

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
5-19-87					
1440					ON LOCATION, STOOD BY
5-20-87					
0145					PICKED UP TOOLS
0250					TRIPPED IN HOLE WITH DST #1
0608					ON BOTTOM
0610	1/8"BH	1 OZ.			OPENED TOOL WITH VERY WEAK BLOW,
					2" IN BUCKET
0625		2 OZ.			
0641		2 OZ.			CLOSED TOOL - NO GAS
0741		3 OZ.			OPENED TOOL WITH FAIR BLOW, 4"
					IN BUCKET
0755		4 OZ.			5" IN BUCKET
0810		3.5 OZ.			
0825		3 OZ.			
0841		3 OZ.			CLOSED TOOL - NO GAS
1041					PULLED OFF BOTTOM
1048					TRIPPED OUT OF HOLE WITH DST
1330					OUT OF HOLE
1530					JOB COMPLETED

TICKET NO: 40741700

CLOCK NO: 14121 HOUR: 12

GAUGE NO: 7489

DEPTH: 5728.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	17.8			
	2	5.0	44.7	26.9		
	3	10.0	56.4	11.7		
	4	15.0	67.0	10.6		
	5	20.0	78.1	11.1		
	6	25.0	88.5	10.4		
C	7	30.3	99.8	11.3		
			FIRST CLOSED-IN			
C	1	0.0	99.8			
D	2	59.6	98.7	-1.1	20.1	0.179
			SECOND FLOW			
E	1	0.0	130.2			
	2	10.0	198.3	68.1		
	3	20.0	215.2	16.9		
	4	30.0	229.7	14.5		
	5	40.0	243.4	13.7		
	6	50.0	256.8	13.4		
F	7	61.1	272.2	15.4		
			SECOND CLOSED-IN			
F	1	0.0	272.2			
G	2	119.9	274.4	2.2	51.9	0.246

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$

REMARKS:

TICKET NO: 40741700	GAUGE NO: 2033
CLOCK NO: 10444 HOUR: 12	DEPTH: 5745.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW				
B	1	0.0	41.4			
	2	5.0	49.4	8.0		
	3	10.0	61.0	11.5		
	4	15.0	71.2	10.2		
	5	20.0	81.1	9.9		
	6	25.0	91.4	10.3		
C	7	30.3	101.5	10.1		
		FIRST CLOSED-IN				
C	1	0.0	101.5			
	2	5.0	130.8	29.4	4.3	0.846
	3	10.0	168.8	67.3	7.5	0.606
	4	15.0	213.5	112.1	10.0	0.480
	5	20.0	266.0	164.5	12.1	0.401
	6	25.0	330.6	229.1	13.7	0.345
	7	30.0	404.4	303.0	15.1	0.304
	8	35.0	486.3	384.8	16.3	0.271
	9	40.0	600.7	499.2	17.3	0.245
	10	45.0	719.8	618.4	18.1	0.224
	11	50.0	849.8	748.3	18.9	0.206
	12	55.0	986.8	885.4	19.6	0.191
D	13	59.6	1117.5	1016.0	20.1	0.179
		SECOND FLOW				
E	1	0.0	189.0			
	2	10.0	199.4	10.3		
	3	20.0	216.0	16.6		
	4	30.0	230.9	14.9		
	5	40.0	244.2	13.3		
	6	50.0	256.8	12.6		
F	7	61.1	268.6	11.8		
		SECOND CLOSED-IN				
F	1	0.0	268.6			
	2	8.0	297.9	29.4	7.3	1.096
	3	16.0	331.9	63.3	13.6	0.828
	4	24.0	370.2	101.7	19.0	0.682
	5	32.0	410.5	141.9	23.7	0.586
	6	40.0	454.5	185.9	27.8	0.517
	7	48.0	503.1	234.5	31.5	0.463
	8	56.0	553.1	284.6	34.7	0.420
	9	64.0	608.9	340.3	37.7	0.385
	10	72.0	668.6	400.0	40.3	0.356
	11	80.0	731.1	462.5	42.7	0.331
	12	88.0	798.5	529.9	44.9	0.309
	13	96.0	870.7	602.1	46.8	0.291

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	14	104.0	943.9	675.3	48.7	0.274
	15	112.0	1021.4	752.8	50.3	0.259
G	16	119.9	1098.9	830.3	51.9	0.246

REMARKS:

TICKET NO: 40741700

CLOCK NO: 14128 HOUR: 24

GAUGE NO: 2032

DEPTH: 5893.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	104.5			
	2	5.0	117.1	12.6		
	3	10.0	128.4	11.3		
	4	15.0	138.3	10.0		
	5	20.0	148.7	10.3		
	6	25.0	158.2	9.6		
C	7	30.3	168.9	10.6		
			FIRST CLOSED-IN			
C	1	0.0	168.9			
	2	5.0	202.0	33.2	4.3	0.851
	3	10.0	241.0	72.2	7.5	0.605
	4	15.0	286.8	117.9	10.0	0.480
	5	20.0	339.3	170.5	12.1	0.401
	6	25.0	404.4	235.5	13.7	0.345
	7	30.0	481.3	312.4	15.1	0.303
	8	35.0	570.2	401.4	16.3	0.271
	9	40.0	672.0	503.1	17.2	0.245
	10	45.0	787.3	618.5	18.1	0.224
	11	50.0	918.0	749.1	18.9	0.206
	12	55.0	1054.1	885.2	19.6	0.191
D	13	59.6	1183.3	1014.5	20.1	0.179
			SECOND FLOW			
E	1	0.0	256.1			
	2	10.0	268.0	11.9		
	3	20.0	285.4	17.4		
	4	30.0	300.9	15.5		
	5	40.0	314.9	13.9		
	6	50.0	328.3	13.4		
F	7	61.1	341.4	13.1		
			SECOND CLOSED-IN			
F	1	0.0	341.4			
	2	8.0	374.5	33.1	7.4	1.093
	3	16.0	410.3	68.9	13.6	0.827
	4	24.0	448.4	107.0	19.0	0.682
	5	32.0	490.2	148.8	23.7	0.586
	6	40.0	532.9	191.5	27.8	0.517
	7	48.0	579.4	238.0	31.5	0.463
	8	56.0	630.8	289.3	34.7	0.421
	9	64.0	685.0	343.6	37.7	0.385
	10	72.0	743.4	402.0	40.3	0.356
	11	80.0	804.1	462.7	42.7	0.331
	12	88.0	872.4	531.0	44.9	0.309
	13	96.0	941.3	599.9	46.8	0.291

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
			SECOND CLOSED-IN - CONTINUED			
	14	104.0	1016.6	675.2	48.7	0.274
	15	112.0	1097.5	756.1	50.3	0.259
G	16	119.9	1175.3	833.8	51.9	0.246

REMARKS:

TICKET NO. 40741700

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	4.500	3.826	5041.0	
3	DRILL COLLARS	6.250	2.250	641.0	
50	IMPACT REVERSING SUB	5.750	3.000	1.0	5663.0
3	DRILL COLLARS	6.250	2.250	62.0	
5	CROSSOVER	5.750	3.000	1.0	
5	CROSSOVER	5.250	3.000	1.0	
80	AP RUNNING CASE	5.000	2.250	4.0	5728.0
5	CROSSOVER	5.750	3.000	1.0	
13	DUAL CIP SAMPLER	5.750	0.870	7.0	
60	HYDROSPRING TESTER	5.000	0.750	5.0	5743.0
80	AP RUNNING CASE	5.000	2.250	4.0	5745.0
15	JAR	5.030	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	3.0	
70	OPEN HOLE PACKER	7.750	1.530	6.0	5760.0
70	OPEN HOLE PACKER	7.750	1.530	6.0	5766.0
5	CROSSOVER	5.750	3.000	1.0	
3	DRILL COLLARS	6.250	2.250	98.0	
5	CROSSOVER	5.750	2.750	1.0	
20	FLUSH JOINT ANCHOR	5.750	3.000	24.0	
81	BLANKED-OFF RUNNING CASE	5.750		4.0	5893.0

TOTAL DEPTH 5896.0

EQUIPMENT DATA

QUINTANA PETROLEUM CORPORATION
DEADMAN CANYON FEDERAL 1-21
SECTION 21,T37S,R24E
SAN JUAN COUNTY, UTAH

WELL SUMMARY

OPERATOR:	QUINTANA PETROLEUM CORPORATION
WELL NAME:	DEADMAN CONYON #1-21
LOCATION:	SECTION 21, T37S,R24E 460'FSL X 460'FWL
COUNTY,STATE:	SAN JUAN COUNTY, UTAH
ELEVATION:	GL: 5581' KB: 5595
SPUDE DATE:	MAY 11, 1987
T.D .DATE:	MAY 21, 1987
RELEASE DATE:	MAY 21, 1987
MUDLOGGING:	THE ENERGY EXPERTS, LTD.
GEOLOGIST:	DOUG REDMOND
CONTRACTOR:	COLEMAN DRILLING RIG NO.4
HOLE SIZE:	12 1/2" SURFACE TO 2004' 7 7/8" FROM 2004 TO 6160'
CASING SIZE:	9 5/8" FROM SURFACE TO 2004'
LOGGING:	GEARHEART
OBJECTIVES:	ISMAY/DESERT CREEK.
TOTAL DEPTH:	6160'
STATUS:	PLUG & ABANDON

DEVIATION SURVEYS

1°	@	3015'
3/4°	@	3513'
1 1/2°	@	4000'
1°	@	4524'
1 1/4°	@	5024'
1°	@	5546'

BIT RECORD

BIT NO.	SIZE	MFR.	TYPE	IN	OUT	FEET	HOURS	FT/HR
2	12 1/4"	REED	FP-53	54	2004	1950	29 1/2	79.5
3	8 3/4"	STC	F-27	2004'	5141'	3137	69 3/4	44.97
4	8 3/4"	VAREL	V-537	5141'	5896'	755	24 1/4	31.1
5 RR	8 3/4"	VAREL	V-537	5896'	6160'	264	13	20.3

FORMATION TOPS

U. ISMAY	5,772
HOVENWEEP	5,941
L. ISMAY	5,972
GOTHIC SHALE	6,017
DESERT CREEK	6,047
AKAH	6,144

QUINTANA PETROLEUM
DEADMAN CANYON FEDERAL 1-21

MUD RECORD

DATE	DEPTH	WT	MUD GRAD	VIS	PV	YP	GEL STRENGTH	pH	FILTRATE API	CKE	ALK FILTRATE	Cl's ppm	Ca ppm	SAND %	SOLIDS %	WATER %
17-May-87	DRILLING WITH FRESH WATER															
18-May-87	DRILLING WITH FRESH WATER															
19-May-87	5,896	8.5	0.442	36	8	8	2/4	12.0	15.80	2/32	1.1/2.1	2,100	20	1/4	1.30	98.70
20-May-87	5,896	8.6	0.447	37	8	8	2/4	12.0	13.20	2/32	1.1/2.0	2,100	20	1/8	2.00	98.00
21-May-87	6,140	8.6	0.447	33	4	7	3/10	9.0	30.00	2/32	.1/.2	3,500	80	1/8	2.00	98.00

DST NUMBER: 1 **INTERVAL TESTED:** 5,766-5,896 **BHT:** 126°

	PSI	TIME	
Initial Hydrostatic:	2,632		
Initial Flow:	93-159	30	MIN.
Initial Shut In:	1,177	60	MIN.
Final Flow:	252-345	60	MIN.
Final Shut In:	1,138	120	MIN.
Final Hydrostatic:	2,593		

Remarks: IF. OPEN W/SLIGHT BLOW 1 oz,SHUT IN W/2 oz,N.G.T.S. FF. OPEN W/3 oz BLOW INCREASED TO 4 oz, DECREASED TO 3 oz, SHUT IN,N.G.T.S.

RECOVERY: 590' DRILLING MUD,SAMPLER .07 CFG AND 2,300cc DRILLING MUD@ 170 psi,Rw .40 @ 70° F,8,484ppm CL

DEADMAN CANYON #1-21

QUINTANA PETROLEUM CORPORATION
SECTION 21, T37S, R24E
SAN JUAN COUNTY, UTAH

TABLE OF CONTENTS

DEADMAN CANYON #1-21
SECTION 21, T37S, R24E
SAN JUAN COUNTY, UTAH

WELL DATA SUMMARY

WELL NAME:	DEADMAN CANYON #1-21
OPERATOR:	QUINTANA PETROLEUM CORPORATION
LOCATION:	460' FSL 460' FWL, Sec 21, T37S, R24E
COUNTY:	SAN JUAN
STATE:	UTAH
AREA:	CAVE CANYON
DRILLING CONTRACTOR:	COLEMAN DRILLING RIG #13
DRILLING ENGINEER:	ROBERT BLAYLOCK
WELL SITE GEOLOGY:	DOUG REDMOND
ELEVATION:	GL 5584' KB 5598'
DEPTH LOGGED:	4700' to 6160'
DATE LOGGED:	5-17-87 to 5-22-87
TOTAL DEPTH:	6160'
HOLE SIZE:	12 1/4" to 2004', 8 3/4" to TD
CORES:	NONE
D.S.T.:	HALLIBURTON
MUDLOGGING COMPANY:	ENERGY EXPERTS Ltd.
MECHANICAL LOGS:	GEARHART
WELL STATUS:	PLUGGED AND ABANDONED

DAILY DRILLING SUMMARY

1987 DATE	DEPTH	PROGRESS	HOURS DRILLING	MUD WEIGHT	VISC.	ACTIVITY
5-17	4572'			H_2O		Drilling
5-18	5178'	606'	16 1/2	H_2O		Drilling
5-19	5872'	694'	22 1/4	H_2O		Drilling
5-20	5896'	24'	1/2	8.5	35	D.S.T. #1
5-21	6125'	229'	12	8.6	33	Drilling
5-22	6160'	35'	2 1/2	8.6	35	Wait on orders

FORMATION TOPS

KB 5598'
GL 5584'

FORMATION	PROGNOSIS	SAMPLE	E-LOG	SUB-SEA
CHINLE	1866'	1871'		
HERMOSA	4742'	4750'	4744'	+ 854'
UPPER ISMAY	5755'	5783'	5772'	- 174'
HOVENWEEP SHALE	5925'	5945'	5941'	- 343'
LOWER ISMAY	5951'	5977'	5972'	- 374'
GOTHIC SHALE	5997'	6014'	6017'	- 419'
DESERT CREEK	6021'	6046'	6047'	- 449'
CHIMNEY ROCK	6113'	6113'	6119'	- 521'
AKAH		6133'	6144'	- 546'
TD		6160'	6160'	- 562'

SHOW REPORT

WELL NAME: DEADMAN CANYON #1-21

AREA: CAVE CANYON COUNTY: SAN JUAN STATE: UTAH

SHOW No.: 1 FORMATION: UPPER ISMAY

FOOTAGE - from 5883' to 5896' Net ftg 13'

	DT	TOTAL GAS	CHROMATOGRAPH BREAKDOWN (ppm) C_1	C_2	C_3	C_{4I}	C_{4N}	other
BEFORE	1.5	100	6950	1800	680	175	84	
DURING	0.5	400	15960	5760	2720	560	840	
AFTER								

LITHOLOGY TYPE & DESCRIPTION: LS brn,wh,crypt,vf-medium micxln,dolo,foss, occ sl anhy,sucr,fri,frm

POROSITY Est.: 8% - intrgran,intrxln,tr pp vuggy

STAIN DESCRIPTION: pp to spotty blk asphaltic

FLUORESCENCE and CUT DESCRIPTION: No visible fluo, slow streaming yellow cut

REMARKS: tight and wet, still in drilling break when circulated out and D.S.T.

SHOW REPORT

WELL NAME: DEADMAN CANYON #1-21

AREA: CAVE CANYON COUNTY: SAN JUAN STATE: UTAH

SHOW No.: 2

FOOTAGE - from 6135' to 6148' Net ftg 13'

	DT	TOTAL GAS	CHROMATOGRAPH BREAKDOWN (ppm) C_1	C_2	C_3	C_{4I}	C_{4N}	other
BEFORE	2-3	300	15,960	14,400	9,520	1,120	TR	
DURING	1-1.5	560	38,100	25,200	10,200	1,400	700	
AFTER	5	80	8,360	4,320	1,360	280	560	

LITHOLOGY TYPE & DESCRIPTION: LS ltgy,wh,crypt-vfmicxln,occ f micxln,sparry,chalky, foss,anhy,sl sucr,fri,frm

POROSITY Est.: 6-8% intrxln

STAIN DESCRIPTION: spotty dark brn-blk, sm asphaltic

FLUORESCENCE and CUT DESCRIPTION: occ dull yel fluo, wk slow strmg cut

REMARKS: tight interval

DRILL STEM TEST REPORT

WELL NAME: DEADMAN CANYON #1-21 DATE: 5/20/87

AREA: CAVE CANYON COUNTY: SAN JUAN STATE: UTAH

WITNESS: REDMOND/BLAYLOCK FORMATION: UPPER ISMAY

TEST NUMBER: 1 INTERVAL TESTED: 5766' - 5896'

TEST COMPANY AND TYPE OF TEST: HALLIBURTON CONVENTIONAL DOUBLE PACKER

INITIAL FLOW: Open with slight surface blow 1 ounce, remained, shut in with 2 ounce, N.G.T.S.

FINAL FLOW: Open with 3 ounces, slowly increased to 4 ounces, decreased to 3 ounces, shut in, N.G.T.S.

	TIME	TOP CHART Above shut in tool	BOTTOM CHART 5732'
IH:		0	2632
IF:	30	108-108	93-159
ISI:	60	108	1177
FF:	60	173-239	252-345
FSI:	120	239	1138
FH:		0	2593

BHT: 126 °

RECOVERY: 590' of drilling mud

SAMPLE CHAMBER: 0.07 cfg and 2300 cc drilling mud at 170 PSI

RESISTIVITIES: Top sample 1.42 at 78°F - 2181 Cl-, middle 1.50 at 78°F - 2121 Cl-, bottom 0.42 at 78°F - 8363 Cl-

REMARKS: Mud pit Rw 1.48 at 64°F - 2424 Cl-, sampler recovery Rw 1.40 at 78°F - 8484 Cl-, bottom choke 3/4"

GEOLOGIC SUMMARY

Deadman Canyon #1-21 was spudded on May 11, 1987, and tested the Pennsylvanian Ismay and Desert Creek intervals for oil and gas production. Clear water was used for drilling to 5896', where the viscosity was raised to clean the hole for a drill stem test. To protect the massive Navajo and Wingate sandstone aquifers from drilling fluid contaminants, casing was set to 2004', well into the red Chinle Shale whose sample top was at 1871'.

For well evaluation, a two man mud logging unit was employed from 4700' to TS at 6160'. Mechanical logs included a dual induction log, an acoustic log, and a combination neutron-density log. A stratigraphic dipmeter was used over the Desert Creek and Ismay zones.

Following is a brief description of the well.

Hermosa(Honaker Trail): 4744' - 5772'

This interval of sedimentary deposition represents a period of changing environments. The lower Hermosa section was almost entirely marine shales and silts interbedded. As you move upward through the section, the rocks become more continental in appearance. The basic color changes from gray and black lower down to red, orange, and brown above. Arkosic sands and silts were more prevalent near the Hermosa top where the Cutler red beds take over.

The mud gas in the Hermosa increased in several instances and was evaluated. It occurs in predominantly thin tight sands and silts(NFSOC), and typically was near dark gray to black shale. This shale contained enough organic material to be a source bed, however a reservoir was not present.

The carbonates of the interval were mainly limestones that varied to different shades of white, gray, and brown, depending on the impurities and shale content. Some of the limestone was fossiliferous and chalky, and in other zones it became dolomitic. It was very siliceous, cherty, and hard in some instances, especially down around 5700'. None of the limestone had porosity or sample show.

Paradox Shale And Upper Ismay: 5762' - 5941'

The Paradox Shale was a black organic shale, and the uppermost of several which are consistantly seen across the Paradox Basin. They are considered to be source beds for the hydrocarbons found here in the carbonate reservoirs of the Ismay and Desert Creek intervals. The Upper Ismay section top was typical of the area. It was chosen at a gray limestone following the Paradox Shale. Two anhydrite beds followed the limestone, and then a slightly marly gray limestone. At this point, a massive anhydrite was drilled from 5814' to 5877'. Very little of this anhydrite was seen in the samples because it was being ionized and going into solution in the drilling fluid. It was apparent that the anhydrite had replaced the entire productive limestone found in the nearby Deadman Canyon field. The carbonate was finally encountered at 5877', and porosity from 5883' to 5896'. The drill rate increased from 1.5 min./ft. to 0.5 min/ft., and a net mud gas increase of 300 unite was found. After drying, some pinpoint vuggy porosity was noticed in the gray limestone, and a weak, streaming yellow cut was logged. Drill Stem Test #1 from 5766' to 5896' found a tight. wet interval. E-logs confirm

this with very low resistivities through the section, and porosity of about 8 to 10 percent. Nothing economically viable was found in the interval.

Hovenweep Shale And Lower Ismay: 5941' - 5972' and
5972' - 6017'

The Hovenweep was black, silty, carbonaceous, fissile, and firm. It also separates the upper and Lower Ismay cycles. The Lower Ismay was picked on the gray limestone under the Shale. It was followed by a massive anhydrite and another limestone. No shows were recorded in this interval.

Gothic Shale And Desert Creek: 6017' - 6047' and
6047' - 6119'

The Gothic Shale had a similar appearance to the Hovenweep above. It provided a good, consistant marker above the Desert Creek. The carbonates of the Desert Creek were varying shades of gray, marly, and dolomitic. The upper and lower benches of the Desert Creek were separated by massive anhydrites. The lower bench carbonate was slightly expanded here when compared to offset wells, however it was dense and no porosity had developed.

Chimney Rock Shale And Akah: 6119' - 6144' and
6144' - 6160'

The Chimney Rock Shale was again black, carbonaceous, and an excellent source for hydrocarbons. At the Akah sample top of 6133', a thin limestone of two or three feet was encountered which had some intercrystalline porosity and a weak sample show. If a reservoir had been developed, this certainly would have been an oil bearing zone.

The well was finished in the Akah in order to stay away from the Paradox salt, which kept the chlorides in the drilling mud down.

Total evaluation of the well did not reveal any economically productive intervals, and the decision to plug and abandon was made.

SAMPLE DESCRIPTIONS

		Poor Sample Quality
4700-4730	60%	Shale - dark red, red to brown, orange, calcareous, brittle, firm, splintery, fissile
	40%	Siltstone - dark red, orange, calcareous, silty, fissile, brittle
4730-4760	70%	Shale - as above
	20%	Limestone - medium to light gray, white, tan, cryptocrystalline, fossiliferous, slightly marly, sparry, dense, medium hard
	10%	Siltstone - as above
4760-4790		Very Poor Sample
	60%	Shale - dark gray, dark brown to red, calcareous, marly, silty, splintery, firm to medium hard, fissile
	40%	Limestone - medium gray, light gray, brown, translucent in part, cryptocrystalline, slightly siliceous in part, fossiliferous, slightly marly, dense, hard, medium hard
4790-4850		Very Poor Sample
	90%	Limestone - light to medium gray, tan, brown, cryptocrystalline, very finely microcrystalline, fossiliferous, slightly marly, some chalky, slightly siliceous in part, dense, firm to hard
	10%	Shale - as above
4850-4880	70%	Limestone - light to medium gray, white, tan, cryptocrystalline, occasionally very finely microcrystalline, occasionally fossiliferous, siliceous in part, marly in part, dense, firm, medium hard, hard
	30%	Shale - dark gray, dark red to brown, calcareous, very silty, micaceous, brittle, blocky, firm to medium hard
4880-4910	90%	Limestone - tan, white, light gray, translucent, cryptocrystalline, occasionally chalky, siliceous, dense, medium hard, firm
	10%	Shale - as above
4910-4940	80%	Shale - dark gray to black, dark red to brown, calcareous to marly, slightly silty, fissile, blocky, medium hard, brittle
	20%	Limestone - medium gray, dark gray, occasionally light gray, cryptocrystalline, some very finely microcrystalline, marly, lithic, dense, medium hard
4940-4970		Very Poor Sample
	60%	Shale - as above, becoming medium gray, marly
	40%	Limestone - as above
4970-5000	90%	Limestone - white, light to medium gray, cryptocrystalline, fossiliferous, some siliceous, chalky in part, dense, firm to medium hard, hard
	10%	Shale - as above
		Trace Chert - clear to opaque
5000-5030	70%	Shale - dark to medium gray, dark red to brown, calcareous to marly, silty, micaceous, fissile, firm, blocky
	30%	Limestone - light to medium gray, white, cryptocrystalline, marly,

5000-5030 (continued)		chalky, fossiliferous, lithic, dense, medium hard, firm Trace Chert - milky white
5030-5060	80%	Shale - as above
	20%	Limestone - white, light to medium gray, cryptocrystalline, very sandy, chalky, argillaceous, marly, firm, dense
5060-5090	60%	Limestone - medium gray to brown, light gray, cryptocrystalline, very finely microcrystalline, argillaceous, marly, graded to shale, dense, medium hard
	40%	Shale - medium to dark gray, black, marly, very calcareous, argillaceous, firm, medium hard, waxy
5090-5120	70%	Shale - medium to dark gray, calcareous, argillaceous, marly, soft to firm
	30%	Limestone - medium brown, light to medium gray, crypto-crystalline, very finely microcrystalline, marly, dense, medium hard, firm
5120-5150	80%	Limestone - dark to medium gray, light gray, occasionally white, tan, cryptocrystalline to very finely microcrystalline, very argillaceous, chalky in part, recrystallized, dense, soft to medium hard
	20%	Shale - as above
5150-5210	80%	Limestone - medium gray, light gray, white, cryptocrystalline, very finely microcrystalline, siliceous, fossiliferous, marly, dense, medium hard, hard
	20%	Shale - dark gray, microcrystalline, marly, micaceous, medium hard
		Trace Chert - tan, light gray
5210-5240	90%	Limestone - light to medium gray, white, cryptocrystalline, very finely microcrystalline, argillaceous, lithic, slightly chalky in part, dense, medium hard, hard
	10%	Shale - dark gray, medium gray, calcareous, silty, fissile, medium hard
5240-5270	70%	Limestone - medium gray, light gray, cryptocrystalline, very finely microcrystalline, micaceous, argillaceous, marly, dense, medium hard
	30%	Shale - dark gray, medium gray, very finely microcrystalline, marly, silty, micaceous, blocky, brittle, medium hard
		Trace Pyrite
5270-5300	60%	Limestone - medium gray, light gray, tan, cryptocrystalline, siliceous, slightly fossiliferous, marly, dense, firm, medium hard, hard
	40%	Shale - dark gray to brown, medium gray, marly, silty, graded to mudstone, brittle, medium hard
		Trace Chert - brown, tan
5300-5330	90%	Limestone - light to medium gray, white, tan, translucent, cryptocrystalline, very finely microcrystalline, siliceous, chalky in part, medium hard, hard
	10%	Shale - black, dark gray, calcareous, slightly carbonaceous in part, firm
		Trace Chert - clear, tan

5330-5360	80%	Limestone - tan, white, light to medium gray, cryptocrystalline, very finely microcrystalline, very siliceous, argillaceous and marly in part, dense, medium hard to hard
	20%	Shale - as above
		Trace Chert - 5%, tan, brown
5360-5390	60%	Shale - dark gray, medium gray, black, calcareous, very slightly carbonaceous, silty, blocky, firm, medium hard
	40%	Limestone - as above, becoming marly, medium hard
5390-5420	90%	Limestone - tan, light gray, white, cryptocrystalline, occasionally very finely microcrystalline, siliceous, chalky, slightly fossiliferous, dense, medium hard, hard
	10%	Shale - as above
		Trace Chert - tan, clear
5420-5450	70%	Limestone - as above, becoming darker gray, marly
	30%	Shale - dark gray to brown, calcareous to marly, silty, argillaceous, medium hard, firm
5450-5480	80%	Limestone - as above
	20%	Shale - dark gray to black, calcareous, silty, slightly carbonaceous, firm, brittle
5480-5510	60%	Limestone - tan, light to medium gray, cryptocrystalline, marly in part, firm, medium hard, dense
	40%	Shale - black, dark gray, calcareous, carbonaceous, silty, blocky, medium hard, firm
5510-5540	80%	Shale - black, dark gray, calcareous, silty, carbonaceous in part, fissile, firm, medium hard
	20%	Limestone - as above
5540-5600	80%	Limestone - medium gray, light gray, off white, cryptocrystalline, siliceous in part, chalky in part, some marly, dense, medium hard, hard, firm
	20%	Shale - as above
		Trace Chert - tan
5600-5620	90%	Limestone - medium gray, light gray, off white, cryptocrystalline, marly, argillaceous, occasionally fossiliferous, dense, firm, medium hard
	10%	Shale - dark gray, medium gray, calcareous to marly, firm
		Trace Chert - milky white, tan
5620-5630	90%	Limestone - white, light gray, medium gray, tan, translucent, cryptocrystalline, siliceous in part, slightly fossiliferous, medium hard, hard
	10%	Shale - as above
		Trace Chert - tan
5630-5650	100%	Limestone - as above, occasionally sandy
		Trace Shale - as above
		Trace Chert - milky white, tan
5650-5660	70%	Limestone - tan, light gray, medium gray, cryptocrystalline, very finely microcrystalline, siliceous, slightly dolomitic, lithic, sandy, dense, medium hard, hard
	30%	Shale - medium gray, dark gray, calcareous to marly, silty,

5650-5660 (continued)		brittle, medium hard Trace Chert - milky white, tan
5660-5670	80%	Shale - dark gray, black, silty, calcareous, slightly carbonaceous, firm to medium hard, fissile
	20%	Limestone - as above
5670-5680	70%	Shale - as above
	30%	Limestone - as above
5680-5700	70%	Limestone - tan, brown, light to medium gray, translucent, cryptocrystalline, siliceous, marly, dense, medium hard, hard
	30%	Shale - as above Trace Chert - 5%, tan, gray, milky white
5700-5710	90%	Limestone - tan, brown, light to medium gray, translucent, cryptocrystalline, occasionally very finely microcrystalline, siliceous, occasionally fossiliferous, dense, medium hard, hard
	10%	Shale - as above Trace Chert - 5%, tan, clear to milky white
5710-5720	80%	Limestone - as above, tan, siliceous, hard
	20%	Shale - dark gray, graded to marlstone, siliceous, calcareous, firm to medium hard Trace Chert - 5%, tan
5720-5740	90%	Limestone - medium gray, light gray, cryptocrystalline, very finely microcrystalline, chalky, very siliceous in part, some marly and argillaceous, firm, medium hard to very hard, dense
	10%	Shale - dark gray, black, calcareous, carbonaceous, firm Trace Chert - 5%, tan, clear to milky white
5740-5760	100%	Limestone - medium gray, light gray, cryptocrystalline to very finely microcrystalline, marly, siliceous, firm, medium hard, hard Trace Chert - as above
5760-5770	100%	Limestone - medium gray, tan, cryptocrystalline, very finely microcrystalline, slightly fossiliferous, marly, sparry, dense, medium hard, hard
5770-5780		Very Poor Sample
	80%	Limestone - as above
	20%	Shale - black, dark gray, calcareous, carbonaceous, silty, firm, fissile
5780-5790	90%	Limestone - light gray, medium gray, tan, cryptocrystalline, occasionally very finely microcrystalline, marly, slightly fossiliferous, sparry, dense, medium hard, firm
	10%	Shale - as above Trace Anhydrite - white, amorphous
5790-5810		Very Poor Sample Throughout
	80%	Limestone - as above
	20%	Shale - as above

5810-5840		Very Poor Sample
	70%	Limestone - tan, light to medium gray, white, translucent, cryptocrystalline to very finely microcrystalline, occasionally finely microcrystalline, slightly fossiliferous, dolomitic, sucrosic in part, friable, firm, medium hard, NFSOC
	30%	Shale - as above
		Trace Anhydrite
5840-5880	80%	Limestone - as above, occasionally slightly siliceous, fossiliferous in part, dense, NFSOC
	20%	Shale - as above
5880-5896	80%	Limestone - tan, light gray, white, cryptocrystalline, very fine to finely microcrystalline, occasionally coarsely microcrystalline, some fossiliferous, slightly dolomitic, sucrosic, friable, firm, pin point vuggy Ø, trace intercrystalline and intergranular Ø, pin point spotty black asphaltic stain, No fluorescence, dried samples displayed moderate streaming yellow cut to a residual ring cut
	20%	Shale - as above
5896-5900		Samples Improved
	90%	Limestone - white, light gray, tan, cryptocrystalline, very finely microcrystalline, fossiliferous, chalky, dolomitic in part, firm, medium hard
	10%	Shale - medium to dark gray, calcareous to marly, firm
5900-5910	100%	Limestone - tan, light gray, white, cryptocrystalline to very finely microcrystalline, occasionally fine to coarsely microcrystalline, sparry, fossiliferous, dolomitic in part, chalky, anhydritic, firm, medium hard, no visible Ø, NFSOC
5910-5940	100%	Limestone - as above, tan, medium brown, anhydritic, dolomitic, fossiliferous, chalky, firm, NFSOC, no visible Ø
5940-5950	80%	Shale - black, dark gray brown, calcareous, carbonaceous, silty, fissile, firm
	20%	Limestone - as above
5950-5970	100%	Shale - as above
		Trace Limestone
5970-5980	70%	Limestone - medium gray, dark gray, cryptocrystalline, some very finely microcrystalline, marly, argillaceous, lithic, slightly dolomitic, dense, medium hard, firm
	20%	Shale - as above
	10%	Anhydrite - white, amorphous, soft
5980-5990	80%	Limestone - medium gray, cryptocrystalline, very finely microcrystalline, finely microcrystalline, argillaceous, marly, dense, firm, medium hard
	10%	Anhydrite - as above
	10%	Shale - as above
5990-6010	70%	Limestone - light to medium gray, cryptocrystalline, some finely microcrystalline, fossiliferous, slightly argillaceous to marly, anhydritic, dense, firm
	30%	Anhydrite - white, soft

6010-6020	70%	Limestone - medium gray to brown, light gray, cryptocrystalline to very finely microcrystalline, argillaceous to marly in part, slightly dolomitic, dense, firm
	20%	Shale - black, calcareous, carbonaceous, silty, soft
	10%	Anhydrite - as above
6020-6040	100%	Shale - black, black to brown, calcareous, carbonaceous, silty, fissile to blocky, soft to firm
6040-6050	60%	Limestone - medium gray, light gray, cryptocrystalline, very fine to finely microcrystalline, very dolomitic, slightly argillaceous, anhydritic, sucrosic in part, friable, dense, firm, medium hard, no visible Ø, NFSOC
	40%	Shale - as above
6050-6060	70%	Dolomite - medium gray to brown, cryptocrystalline, very finely microcrystalline, very marly, graded to mudstone, dense, medium hard
	30%	Shale - medium gray, dark gray, black, marly, dolomitic, firm, medium hard
		Trace Anhydrite
6060-6070	90%	Dolomite - light to medium gray, cryptocrystalline, very finely microcrystalline in part, marly and argillaceous, slightly anhydritic, dense, medium hard
	10%	Anhydrite - white, clear, amorphous
6070-6090	100%	Dolomite - light to medium gray, medium gray to brown, cryptocrystalline to very finely microcrystalline, argillaceous and marly, dense, medium hard, firm
		Trace Anhydrite - 5%, white, soft
6090-6110	80%	Dolomite - medium brown, light to medium gray, cryptocrystalline to very finely microcrystalline, slightly fossiliferous, slightly sucrosic, friable, firm, NFSOC
	20%	Shale - black to dark gray, calcareous, firm
		Trace Anhydrite - 5%, white, soft
6110-6120	90%	Dolomite - as above
	10%	Shale - as above
6120-6130	90%	Shale - dark gray to brown, black, calcareous, carbonaceous, silty, firm, blocky
	10%	Dolomite - medium gray, brown, cryptocrystalline, marly, dense, firm
6130-6140	70%	Shale - as above
	30%	Limestone - light gray, white, cryptocrystalline, very finely microcrystalline, occasionally finely microcrystalline, sparry, fossiliferous, anhydritic, slightly sucrosic, friable, firm, some intercrystalline Ø, spotty dark brown to black staining, occasional dull yellow fluorescence, weak slow streaming cut
6140-6160	100%	Shale - black, calcareous, carbonaceous, silty, soft